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THE HERCULES MIXER

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The Delaware Trust Building, now in process of construction, in which our Home Office will shortly be quartered. See Page 311.

VOLUME II, No. 10

OCTOBER, 1920



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G. M. NORMAN
Chief Chemist of the Company
Photo by Ellis See Page 339

THE ORGANIZATION AND WORK OF THE CHEMICAL DEPARTMENT

How This Unit of Our Company Plays an Important Part in Connection With the Manufacture of Our Acids, Nitro-Glycerin and Dope, and Supervises the Progress Being Made at the Experimental Station

IN THE EARLY period of the Hercules Powder Company there was not so much need of a chemical department as there is at present, since for some time after the organization, outside assistance was available. As new problems came up, however, and as time elapsed, a chemical department was built up gradually.

At the time our Company was organized G. M. Norman was chosen as chief chemist. The first addition to the department came when C. F. Bierbauer joined us in the late fall of 1915. About this time there was pressing need of increased chemical supervision at the Curtis Bay acetone operation, and Mr. Bierbauer was sent down there to remain during the entire operation of the so-called vinegar plant. He never returned to the Home Office, being called upon subsequently to handle the Hercules Experimental Station at the time when it was organized.

The next recruit to the Chemical Department came with the transfer in 1916 of V. R. Croswell from the Kenvil Plant to the Home Office. Mr. Croswell remained as Mr. Norman's assistant until the pressing need of supervision of the Kenvil TNT line in 1917 called him to that work. In the summer of the same year E. M.

Symmes was transferred to the Chemical Department from Bacchus and in the fall of the following year H. N. Marsh came from the Experimental

Station to join the organization. Early in 1919 J. L. Bennett was transferred to the department from the Hercules Plant Acid Department, and in the fall of the same year W. C. Hunt, then assistant superintendent at Kenvil, was added to the department as assistant to Mr. Norman.

In addition to what might be called the regular membership of the organization, as outlined above, it has been found necessary to have men connected with the Chemical Department on special work, taking them away from the Home Office a great deal of the time. Since January 1, 1919, J. T. Moore, upon his return from the Nitro Plant, has been detailed to investigations on nitroglycerin and sulphuric acid, and since January 1, 1920, E. A. W. Everitt has been



W. C. HUNT, ASSISTANT CHIEF CHEMIST

Was assistant superintendent at Kenvil before he was transferred to the Home Office. He has seen service at most of our dynamite plants and is well known to the whole organization. Mr. Hunt has direct supervision of the chemical problems in connection with smokeless powder manufacture.

connected with special questions involving the manufacture and testing of our smokeless sporting powders. Before this time, Mr. Everitt handled the same questions under the direction of the Kenvil Plant, and later, was ballistic engineer at Nitro. During the spring and summer of 1919 Charles E.

Vanderkleed handled the experimental work of developing and marketing our organic chemicals derived from kelp. Since 1919 J. Barab has been with the Chemical Department, detailed to field investigations for the Sales Department.

From the very nature of the commodities we make, the chemistry of our business is a highly diversified and most important part of our work. All of our manufacturing processes depend, in one way or another, upon chemistry, and the quality and effectiveness of our products are the result of careful chemical control.

The Chemical Department is called upon for as many different kinds of service as any unit of the Company. One day it may be, as it has been in the past, the propagation of bugs in vinegar to produce, eventually, acetone, and the next, the development of a high-power rifle powder at the Experimental Station; one day the analysis of mine gases just after a shot to determine the question of whether a certain powder is safe to use underground, and the next, whether it is cheaper to manufacture or to purchase nitrate of ammonia, sulphuric acid, and other ingredients. In between are included supervision of the manufacture of all of our nitric and sulphuric acids, nitrate of ammonia, dope,



E. M. SYMMES

Has been in the chemical end of the explosives business ever since he was graduated from Tech, having worked at our Kenvil and Bacchus plants before he came to the Home Office in the summer of 1917. He looks after complaints, the testing of competitive dynamites, and the development of new powders.

nitro cotton, pyroxylin solutions, pyroxylin solvents, and the various other chemicals which are handled by our Company. The supervision of manufacture, however, is only a part, although an important one, of the work which falls upon the department.

Reports and statistics are kept showing each month since the organization of the Company the acid yields and the relative standing of the various plants according to percentage efficiency. The production and cost—exclusive of the materials of the dynamite plants, are tabulated and plotted in chart form monthly. These are sent out to all the plants for their guidance. Since our entrance into the Naval Stores field, the Chemical Department also turns out monthly charts showing the production and shipments of turpentine, rosin, and pine oil. In addition to all of these diversified lines of work the same department has direct supervision over our Experimental Station at Kenvil, where our dynamite development work, complaint investigations, ballistic testing and experiments, and various researches, such as Herculoid manufacture, improvements in rosin grades, fuel analyses, and the like, are performed.

This much for a general outline of the department's activities and to give an idea of the variety



J. L. BENNETT

Started making dynamite when he was two years old, so rumor states, and has been at it ever since. Though a native of New Jersey his stay at Hercules Plant converted him into an ardent "Native Son." Mr. Bennett has charge of the varied problems in the manufacture of acids and nitroglycerin.



C. F. BIERBAUER

Next to Mr. Norman, Mr. Bierbauer is the oldest member in point of service in the Chemical Department. After teaching the bugs how to behave at the Curtis Bay acetone plant he was sent to Kenvil and organized the Experimental Station, which handles the research problems of the Company.

of the problems presenting themselves. What follows deals more specifically with the important points just mentioned.

The work of the department may be roughly divided into four important groups: (1) Supervision of acid manufacture and use on the plants, including nitroglycerin; (2) Supervision of high explosives research and testing; (3) Supervision of smokeless powder research and testing; and (4) Supervision of Herculoid, organic chemicals, naval stores, etc., research.

Referring to the first division: It is necessary to keep in close touch with the latest developments in the art of acid manufacture by review of patents, current publications, contact with concerns engaging in similar lines of manufacture, and by plant tests conducted by our men in the field. A great deal of this work is indirect in that material assistance is given the plants when they suggest a new idea or desire a test made. It is necessary to have detailed chemical reports from every chemical operation on each plant, so that in case a decrease in efficiency of the process is shown, the cause can be discovered, comparisons made with other plants of our Company, and steps taken to correct the fault. It is, furthermore, necessary to work in close harmony

with almost every department in the Company—the Engineering Department on new construction and improvements; the Traffic Department, in keeping the plants supplied with raw materials and moving finished acid products; the Purchasing Department, in advice on changes in consumption, to allow them to purchase to the best advantage; and the Cost Department, to reduce high costs of operation.

Likewise, in the manufacture of nitroglycerin, it is not only necessary to check up the yields and costs obtained by each of our plants, so that assistance can be given to the plant obtaining the poorest results, but also to check up the costs of raw materials, since, as the costs of nitric and sulphuric acids and glycerin vary, it becomes necessary to alter the ratios of these three in order to make nitroglycerin at the lowest possible figure. Such problems as these are handled by Mr. Bennett.

In connection with the supervision of high explosives research and testing: It is necessary to keep in close touch with developments in the high explosives field, both by current periodicals and a thorough review of patents as they are issued and by checking up the characteristics of new explosives as they appear in the field. In addition, there is the



HENRY N. MARSH

Supervises our plant laboratories and their control reports. The analysis of the experimental costs and graphic charting of the production and cost—exclusive of ingredients for the dynamite plants are also part of his work. He was formerly at the Experimental Station.



HOME OFFICE LIBRARY AND THE CHEMICAL DEPARTMENT CLERICAL FORCE

(Left to right) Miss Katherine Conner, who gets out the summaries of the acid operations; Miss Ellen Saunders and Mrs. Reichard, stenographers; and Miss Frances Fairbanks, librarian. A large number of technical books as well as files of technical and trade journals are kept in the library for the use of the Home Office and plants.

constant search at the Experimental Station for improvements to our existing grades of explosives. These researches are not only developing explosives of greater strength, but ones of better quality for particular purposes. The analyses as run on powders by the plants are reviewed by the Chemical Department and irregularities are reported.

When a complaint on our powders is made, if it is one that cannot be settled by a field examination, the powder is sent to the Station for complete tests, and the findings are the basis of the settlement. Mr. Symmes supervises this work.

The Ballistic Station, situated at Kenvil, is under the direction of the Chemical Department, and here are conducted the routine testing of all black powder and smokeless samples. Constant research work is done towards improvements in existing grades of smokeless powder, as well as the development of new powders which will have characteristics superior to those now known. The Ballistic Station is in charge of L. C. Weldin, who is located there, and questions in connection with the loading companies are handled by E. A. W. Everitt. All of these matters are handled in the Home Office Chemical

Department by Mr. Hunt, as well as many others too numerous to mention.

The accuracy of the work done by the various plant laboratories is checked by sending to them for analysis samples of acids, ammonia liquor, etc., which have been carefully analyzed by the Station. A tabulation of these results shows the accuracy of the plant's work.

In addition, it has been found necessary to have a yearly inspection of the plant laboratories to check up deviations in methods which from time to time find their way in, since accuracy depends largely upon the methods used. A great deal of work is also done in reviewing the costs of the Experimental Station, so that the Chemical Department can keep in close touch with the expenses of the individual experiments. Questions such as the above are handled by Mr. Marsh.

Mr. Norman, as chief chemist of the Company, is in charge of the entire Chemical Department and, naturally, is in close touch with all the work mentioned above, over which he exercises general supervision. A great deal of Mr. Norman's time is spent in connection with experiments at the Station.

OUR NEW HOME

The Quarters That the Main Office of the Hercules Powder Company Will Occupy in the Delaware Trust Building, Ninth and Market Streets, Now Nearing Completion

ARTHUR W. HALL, Industrial Research Department

DOUBTLESS every one in the Home Office, as well as all Herculites visiting headquarters, have watched with interest the erection of the new office building for the Delaware Trust Company, which is being constructed on the north side of Ninth street, running from Market to King streets. This interest has not only been aroused because the city is to have a much needed office building, but principally because it has been generally known as *OUR* new home.

We are to occupy the five top floors of this building, and it is understood orders have been issued to the architects, Dennison & Hiron, to rush this portion so that it will be ready for occupancy in January, 1921.

The building as originally designed was not adaptable to our uses; it had been studied and worked out with the idea of renting rooms either singly or in suites of two or more. Therefore, the stairs and elevators were placed so as to distribute the distances from any one office to these points of exits about equally. This plan, of course, did not lend itself to our scheme at all, as it would have been absolutely impracticable to have elevators and stairs

running into the middle of any one of our numerous departments.

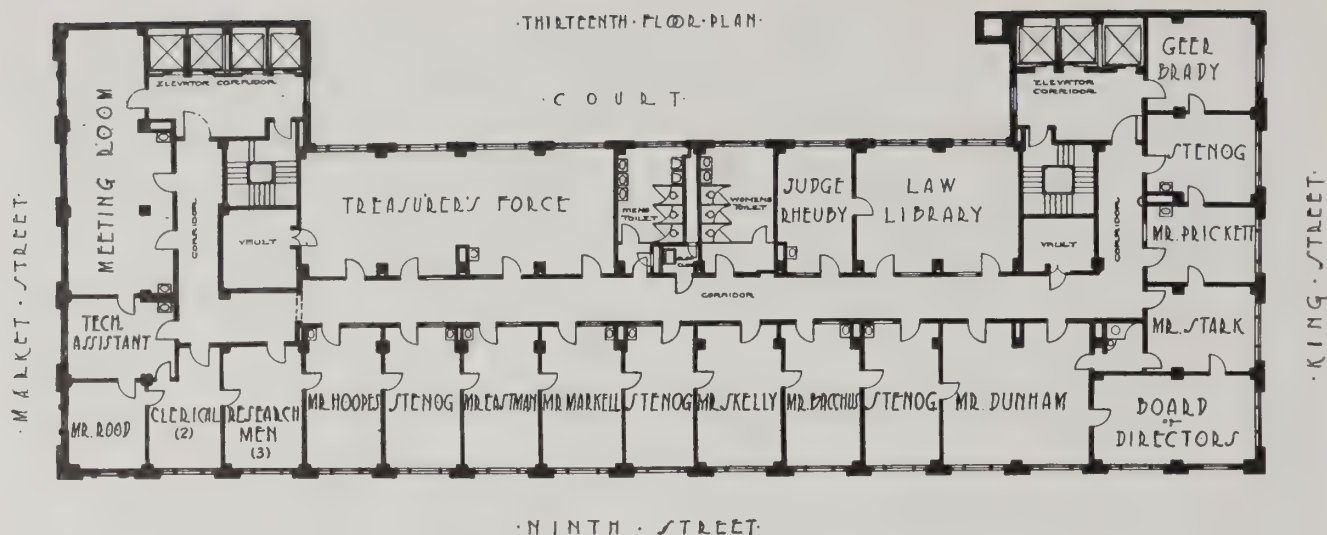
Therefore, the first problem presented was to procure the approval of the owners and architects to an entirely new layout. The steel had been ordered and was being fabricated, the stonework, brick, windows, ornamental iron, elevators, and numerous other important items had been contracted for, and many of them were almost ready for delivery. But by the hearty co-operation of the architects, it is believed we have worked out very nearly an ideal plan. We shifted elevators and stairs around into new locations, and by avoiding any changes in the steel work we were able to effect this new layout, so that the change has been completed without interfering with the progress of the construction.

OF COURSE, entirely new plans had to be drawn of all floors and before this could be done a definite decision had to be made as to the location of each department. At first it was contemplated to occupy only four floors. A tentative plan was worked out along this line, and it was found



PRESIDENT DUNHAM'S OFFICE WILL BE DECORATED AND FURNISHED IN A QUIET BUT DISTINCTIVE STYLE

This room will be twenty-one feet square and located on the Ninth street side of the thirteenth floor, next to the directors' room. The woodwork will be finished in brown mahogany and the walls are to be painted a gray yellow with a sanded finish. This picture is a reproduction of Mr. Hall's water color sketch of the room, and was recently submitted by him for Mr. Dunham's approval.



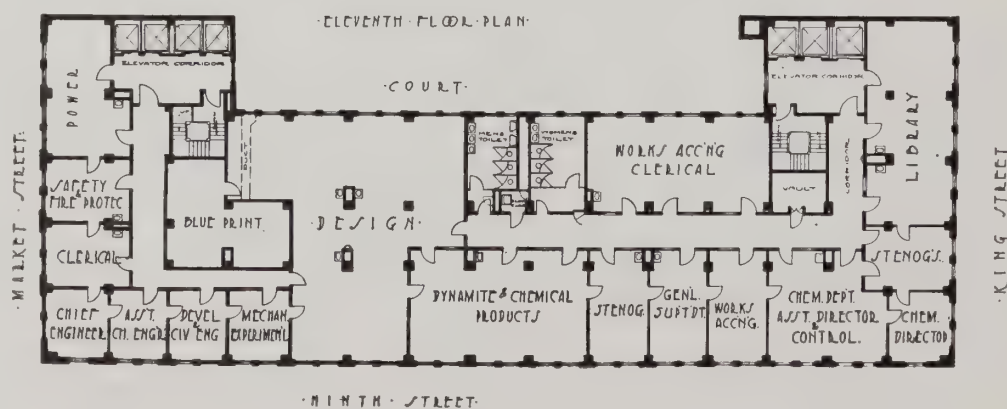
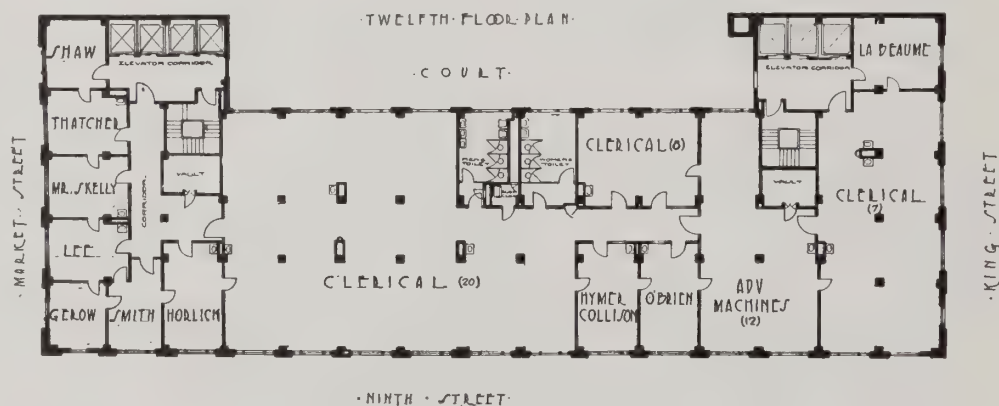
that this allowed for practically no expansion. Our board of directors carefully considered such a layout, and as a result decided to occupy all five floors at once and allow in each department ample room so that as expansion takes place, each department will still remain intact and will not crowd or encroach upon the space of any other department.

When it was finally decided where the best places for each of the numerous departments of the company were, it was necessary to consult the head of each of these units of our Company as to the number of employes and the amount of floor space needed. It was decided that the elimination of private offices was desirable and that we would adopt as much as possible the more modern method of having large, open spaces for all work. Of course, each man was anxious to procure for his department the maximum floor space and what, in his opinion, was the best location. However, all departments eventually were placed so that we believe every one is well satisfied, and it is only fair to say at this time that the rapidity with which this was worked out could only have been accomplished by the close co-operation of the department heads and their assistants, who showed a wonderful spirit of get-together and give-and-take.

BY REFERRING to the accompanying pictures you will see that each department has been located in closest proximity to those with whom it transacts most of its business.

On the tenth floor, where the Purchasing Department is located, there will be an attendant, and all persons visiting any of the departments will be directed from this point to their proper destination. Office boys will be stationed there for this purpose.

THE MAIL Room is located on the ninth floor on the King Street side. Mail will be taken from this room to the elevator halls on each floor. Here office boys will be stationed, who will collect and distribute all mail for their respective floors. In this way it is expected that not only will the handling of mail be expedited, but that these boys, each stationed on and confining his efforts to one floor, will be in a position to render much better service.





THE BOARD OF DIRECTORS' ROOM WILL BE ON THE NINTH AND KING STREETS CORNER

Like President Dunham's office, this room will be treated with the utmost of dignified simplicity, Gothic in character. It was, therefore, decided to furnish both of these rooms with simple Gothic-design furniture. This is also a reproduction of one of Mr. Hall's sketches.

WITH THE plans accompanying this article it is useless to describe the location of the different departments. However, attention should be called to the thirteenth and top floor. Here are located the executive offices, together with the Treasurer's Office, the law library, and the Industrial Research Department. Each of these three departments is in such close and constant touch with the board of directors that it was deemed advisable to locate all of them on this floor.

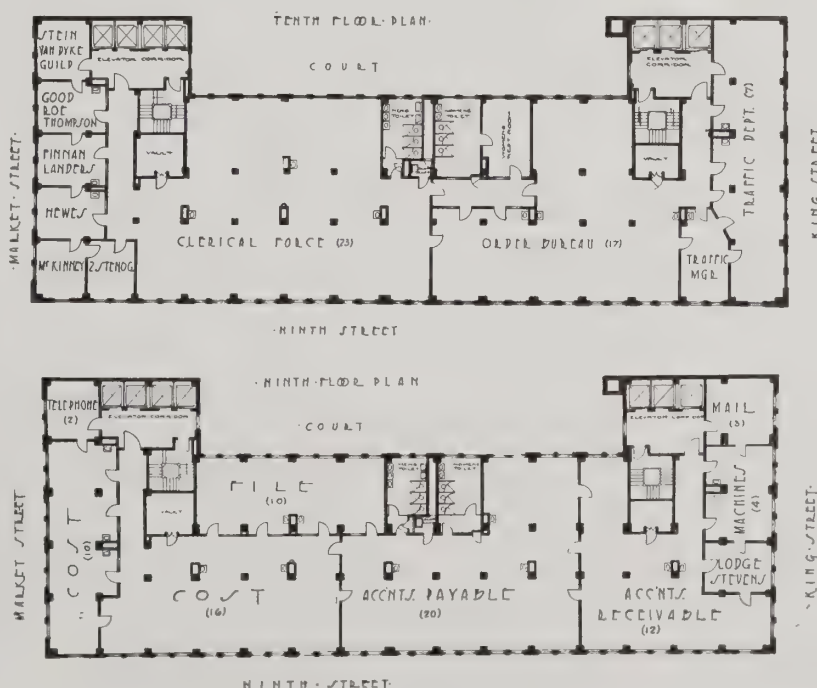
However, the main point of interest is the layout at the corner of Ninth and King streets. Immediately on the corner is the room assigned for the board of directors. Next adjoining it on the Ninth Street side is the president's office. This room is approximately twenty-one feet square, and lends itself to being

furnished and decorated in a very quiet but impressive way.

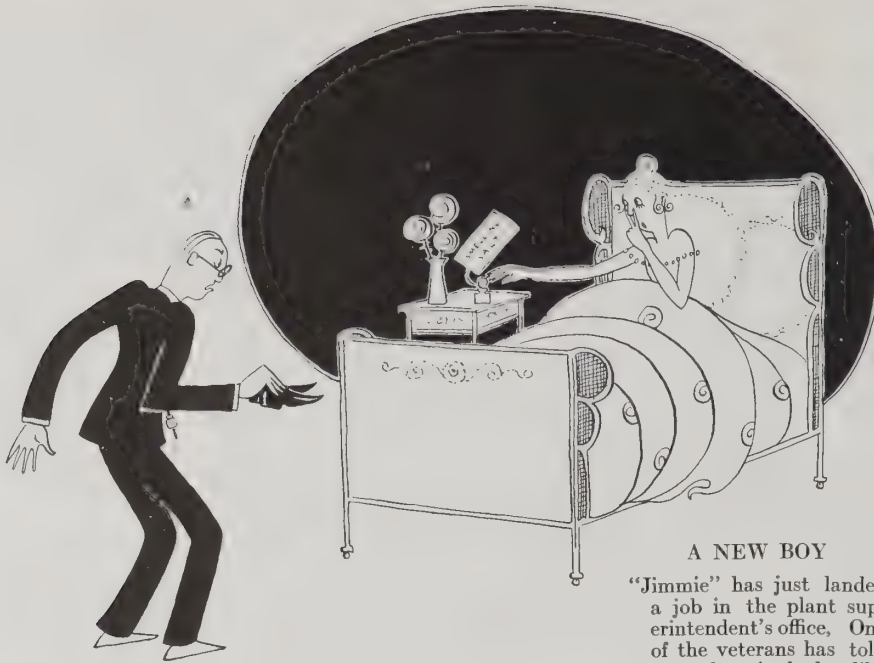
The woodwork throughout these two rooms is to be finished in brown mahogany and the walls are to be painted a gray-yellow, with a sanded finish. Keeping these walls unpanelled and not attempting to decorate them in any way suggests what we believe to be a very rich and dignified office treatment,

Gothic in character, and therefore it was decided to furnish these two rooms with simple, Gothic-design furniture. We have been fortunate in obtaining a very pleasing and comfortable looking arrangement.

The building is equipped throughout in a thoroughly modern way, including a device on the elevators which insure their stopping exactly on the floor levels. We shall have reason to be proud of our new home.



Intimate Glimpses of the Powder Business



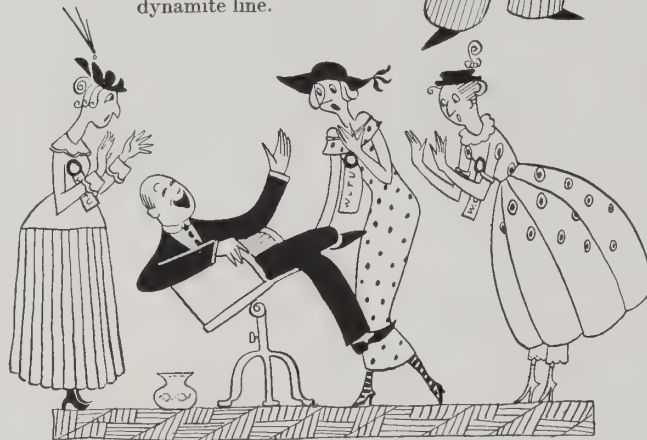
A NEW BOY

"Jimmie" has just landed a job in the plant superintendent's office. One of the veterans has told him that it looks like rain and he had better go out and haul in the dynamite line.



A SWEET BOUQUET

For the first two weeks of his married life, Timothy Kennard, who works in the chemical department, kept his fingers fairly free of acid stains. But one night he came home smelling of butyric acid and his wife, Agnes, wonders why she ever came to marry a chemist.



LOOK OUT FOR THE NARCOTIC LAW

The plant superintendent came to his office one afternoon and found a committee of investigators from the W. C. T. U. They stated they had been informed that he was running a dope house and they had come to clean up the joint. He told them to go to it.



YOU HAVE TO TAKE A CHANCE

"Oh, Sally," said Aunt Millie, when her niece came back home for a vacation, "I should think that you would be terribly afraid to work in the office of a powder company. Now tell me the truth, dear, do they make dynamite right in the same room where you work?"



THE SUMMER HOTEL TOREADOR

"Yes, sir," says "Jim," hero of the accounting department, very impressively to the girls on the porch of the summer hotel, "a lot of men has been made rich in the powder business. But it's awful dangerous, it is." The girls have a mental picture of James in the midst of all kinds of explosions.

OUR CREDIT DEPARTMENT

After the Purchasing, Sales, and Accounting Forces Have All Functioned, It Develops Upon This Unit of Our Organization to Finally Complete the Business Cycle

W. R. STEVENS, Home Office

PART I.

EVERYBODY does not pay cash for what he buys. Sometimes this is impossible and many times it is inconvenient. Hence business today is transacted largely on a basis of *credit*—the advancement of values in consideration of a promise to make a return or a money settlement at a later date. The title, possession, and the use of goods are thus acquired by reason of the faith we as manufacturers have in the intent and ability of the jobber, the retailer, or the consumer to perform his obligations, as well as our own power, in the event of default, to enforce collection. In point of volume, credit transactions far outrank those which require the immediate exchange of actual values. In fact, nearly ninety per cent. of the world's business is transacted on a basis of credit in one form or another. We are all credit men and we are all salesmen. In whatever capacity we are engaged we sell our services to our Com-

pany and agree to wait until the end of the month for our money. The risk in this case, I believe we all agree, is very slight. Within our business, however, we come into contact with all kinds of risks.

It is generally conceded that the essentials of a good credit risk are *capability*, *character*, and *capital*. Where one of these three elements is lacking, trouble is likely to be encountered sooner or later. The banks usually insist on a financial statement when they extend credit in the form of loans, but business men must take a certain amount of chance. Consequently a great deal of stress is laid on *capa-*

bility and *character*. A capable man of good character will usually make up in energy and purpose what he lacks in capital, and most likely succeeds.

When a man launches forth on some business enterprise, let us say as a grocer, if he does not have a large amount of capital he, of necessity, must sell for cash, and by reason of the smallness of his business he is personally able to look after everything himself. If, as we must assume, he sells high quality merchandise, gives good service, is courteous to his trade, gets only a fair profit, and is attentive to business, he gradually expands and finds it impossible to do all the work without help. It is, therefore, considered advisable to secure this help in the form of a business alliance with one or more men. A partnership, or possibly a corporation, is formed and the gradual expansion continues. When the business has

grown to large proportions, someone highly trained in buying is needed. Hence a purchasing agent is engaged. If a wholesale business is now done, necessitating the use of railroads, a man trained in traffic matters is also needed. If, as has nearly always been the case, it has become impossible to continue to get cash for all sales and the number of accounts have increased, and the bookkeeper's time is entirely taken up in posting the ledgers and other details, someone must be employed, who, from experience, study, and close application, can tell who to trust, when to trust, and how much to trust for



W. R. (OTHERWISE "BILL") STEVENS

Heads our Company's Credit Department and contributes the accompanying article on how this part of our business is handled, both in the Home Office and in the field.

and who can get the money when it becomes due. Here is the inception of the credit department and the reason for its existence.

This is a day of specialization. The salesman calling on his customers could, perhaps, if given enough time, find a lost shipment, adjust a serious complaint, or collect an old account, but if he did all these things regularly, he would sell very few goods. So we have the salesmen sell, the service departments adjust complaints and treat purely technical subjects, the traffic department trace shipments, and the credit department collect the accounts.

After our Purchasing, Traffic, Operating, Sales, and Accounting Departments have properly functioned, resulting in our ledgers showing the amounts outstanding, the Credit Department begins to act, so as to provide the Purchasing Department with more funds to buy a new supply of raw materials so the Operating Department may manufacture more high quality products, the Sales Department sell again, the Accounting Department send out bills, etc., until the cycle is once more repeated. We are allied with all the important links of the Company chain and our work is made much easier when all the machinery is well oiled and running smoothly. However, when any of the several links weaken or break the effect is immediately passed along the line until it finally reflects in the collection of the accounts. The harm depends upon the extent of the failure of a department to function. For instance, let us take the Purchasing Department, whose duty it is to buy and supply the plants with a consistently satisfactory supply of raw materials to make possible from the start the manufacture of a high-grade article. If poor material is furnished it results in defective powder and refusal on the part of the



JOHN B. LODGE
(Top Centre)

Assists Mr. Stevens in the Credit Department at the Home Office.

A. J. ANDREWS

Credits at our Hazleton Office are looked after by the chief clerk, who is shown above.



SOME OF THE MEN WHO HANDLE OUR CREDITS

T. E. BROGAN (Above)

Is chief clerk of the Chattanooga Office and handles the credit problems.



A. V. MATHEWS (Circle)

Chicago's chief clerk is also on the job when it comes to watching credits closely.

customer to pay his account promptly or at all. If the Operating Department allows goods of inferior quality to be shipped to our customers we receive complaints and delayed settlements, and allowances must be made. When the Sales Department, through mistake, allows old powder to be shipped from our distributing magazines, the customer gets poor results, complains and the settlement of the account is suspended. And should the Accounting Department make a mistake in billing the goods, the customer withholds payment until he has received a proper invoice.

THE PURPOSE OF THIS ARTICLE

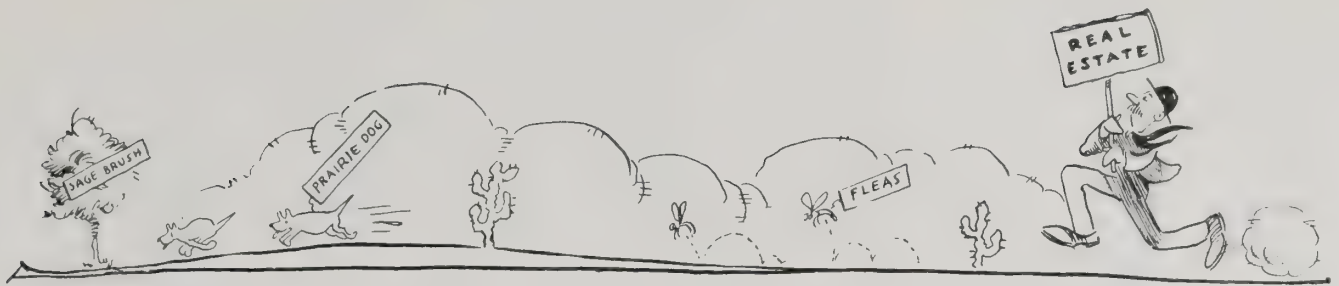
Now, especially, does the Credit Department loom large in any business. In the midst of unsettled times, it is more important than ever that our accounts be guarded with extreme care. A salesman should not think of a sale unless he connects the word credit with it. We are now conducting a campaign of education among the branch office organizations to bring home more forcefully the fact that a sale is not a sale until the money is in the bank. This campaign was launched in conjunction with our Sales Department conventions at the various branch offices.

Members of our sales force, particularly, will do well to read Mr. Stevens' article, for it contains information of real value. Next month's installment will deal with credit machinery.

The Editor.

Likewise, the Traffic and Legal Departments are also connected in their work with

the Credit Department and very close co-operation between them, in both a direct and indirect way, is essential to the smooth running of our business.



THE LAND OF THE NATIVE SONS

A Joplinite Visits California and Our Hercules Plants. Here Are His Impressions and Comments, Written in True Missouri Style

L. W. BABCOCK, Joplin Correspondent



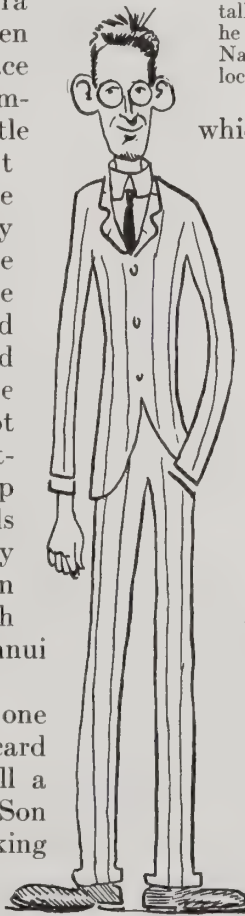
Once upon a time some grass got started but it got discouraged and finally perished in the attempt, and the only way the natives can keep a clock going is to put mittens on its hands to keep it from getting chilblains.

North Pole where they could expect some warm weather occazhunally. It is inhabited mostly by prary dawgs, fleas, sage brush and real estate agents. They is evidence that once upon a time some grass got started but it got discouraged and finely perished in the attempt, and the only way the natives can keep a clock running is to put mittens on its hands to keep it from getting chilblanes. The only green things seen in California is the Eastern tourists and they are the suckker list which keeps the Native Sons from dying from ennui and starvation.

Speakin of Native Sons,—in order to be one all you got to do is show you are a red card member of the Anannias Club and can tell a bigger lie than the other feller. A native Son is recognized at sight because he is always talking about the wonders of Sunny California and this year he ought to be a Democrat. He is always talking about California because this exercize keeps his lower jaw from freezing shut and he should be a Democrat because he knows the League of Nations provides for the U. S. to protect uncivilized localities,

YOU know I promised to write you my impressions of California and I ought to done it long ago but I almost didnt survive the horrors of the Far West and had to go to Maine right away to thaw out and recuperate, otherwise I would of been a fizzikle wreck to this day.

California would of been a swell place for the Eskim-moes to settle down but they got froze out so they went to the



"Sam" Norton is a peculiar looking artikle because he weighs about ninety pounds and is about eleven feet tall. He would of been fifteen feet but he smoked cigarettes.



A Native Son is recognized at first sight because he is always talking about the wonders of Sunny California and this year he ought to be a Democrat, because he knows the League of Nations provides for the United States to protect uncivilized localities, which includes California.

which includes, among other places, California.

Well, to begin at the beginning, I suppose you already know that Jawn Barnard went with me to California so it wont do no good for me to suppress it. In case you dont know Jawn, he is the red-headed Jew that was sent to Bacchus as Asst. Supt. which nearly broke Jawns heart, not because he dislikes Bacchus but because the Utah climate is very dry. Jawn says he can conceeve of no better punishment for W. J. Bryan than to maroon him without water either in the Sahara Desert or in Utah.

We got up our first morning in California and after breaking the ice which had formed overnight on the water pitcher, we washed and went out to Hercules where we met all the boys. The first feller we saw was ole Sam Norton. Sam is a peculiar looking artikle because he weighs about ninety pounds and is eleven feet tall. He would of been fifteen feet but he smoked cigarets

when he was a boy and it stunted his growth. I saw a feller that was his perfect image in one of the trains going west, not very long ago, only this feller missed fifteen feet for a different reason, which was that when he was fabrikated they bent over the last 24

inches of each leg to make a pair of feet for him. He was also a little darker complexioned than Sam. He was waiting on tables on one of the dining cars.

The next feller we saw was Bronson B. Tufts who is well named because he has three of them, one over each eye and one under his nose. I suppose this is his way of economizing as he

can fill his mouth with sand, chew his upper lip, and in this way eliminate a tooth brush from the family budget. He has eleven hairs on one side of his nose and nine on the other which either indicates that he is both a baseball and a football fan or that one side of his lip is better irrigated than the other. His occupation consists of twiddling this misplaced eyebrow and thinking up nasty things to publish in The Mixer about the Joplin Gun Club.

I suppose you have heard of Charlie Lehmcool and Kink Willson. Charlie is the Acid Supt. and the Kink is chief clerk. I was talking to them one day and asked if they was ever any frick-shun between them about the reports and they both said "No," so I asked "How do you show such-and-such a figger on the reports" and Charlie said "We show it this way" and the Kink said "No we show it



The kink said, "You are mistaken, Charlie," and Charlie said, "Your crazy." The kink got red and said, "Your a pinhead," and Charlie said, shaking his phist under the kinks nose, "Your a fozzle-headed liar."

Charlie said, shaking his phist under the Kinks noze, "Your a fozzle-headed liar." " \$? % X ! ? " " \$ % (! \$? " " % X ! ? " " \$ % (! \$? " " \$? % & ? ' " ? [(" At this time I retired, not because I felt any fear, but I thot Id better go get a broom and a shovel to clean up whatever teeth,



Bronson B. Tufts [is well named because he has three of them, one over each eye and the other under his nose.

nozes, blood and scalps that might be left. When I returned the armistice had been signed and I suppose they are on speaking terms again now.



Sam has a hole cut in the top of his Ford to stick his head through so he wont get round shouldered, and he always carries a side car so he can take his legs along with him.

The boys was very nice about showing us around the country, especially Sam. He has a flivver which has a reputation for covering 90,000 miles and never missed on more than three at once. Sam has a hole cut in the top to stick his head through so he wont get round shouldered and he always carries a side car so he can take his legs along with him. He took us to San Pablo and

showed us the race track where they used to have hoss races. Jawn said "Well I suppose they *could* get the hosses to run if they could ever get 'em warm enough." Then Sam took us up to Martinez which was a disappointment to Jawn because them birds pronounce it like Martini's with the accent on the second sillable and Jawn got all drooly at the mouth, thinking it was a drink instead of a town.

They is only one redeeming feature about the Hercules plant I could see and that was E. D. Armstrong, because he came from Maine. It is no wonder the Hercules plant has a good reputation in spite of its location with a Maine man as



When I asked his name he said he was an Irishman and his name was Abraham Shertoff. I said "Lissen to me, Abraham, auld boy, you dont stand no show in Sunny California with a name like that. Get it changed from 'Shertoff' to 'Overcoatonn.'"



One night Harry Kolb took us to Tait's Cafe where we watched the California Janes smoking Mecca cigarets with Philip Morris expreshuns on their faces.

that way. Charlie said "We do not, we show it this way" and the Kink said "You are mistaken Charlie" and Charlie said "Your crazy." The Kink got red and said "Your a pinhead" and

(Continued on Page 338)



AMONG THOSE PRESENT
Were Charlie Lehmkuhl, and
Nat and Mary Hawthorne.



"TIM" CORNISH ON THIRD
The moment afterward "Tim"
scored for the San Francisco
Office. Dave Jones third.



"BILL" AGNEW (AT BAT)
Has just taken a swing at a fast
one and missed it. Elmer Noyes,
of the plant team, catching.



PHIL POWELSON (RIGHT)
Was team captain of the plant
outfit and took occasion to pose
for the camera before the game
in big league style.



ORVILLE ADAMS (LEFT)
Headed the office team and played
second base. He worked his
famous "glove strategy" suc-
cessfully during the game.

Hercules Plant Trims San Francisco Office

THE SAN FRANCISCO Office baseball team came up as per schedule on Saturday, September 11, and engaged in a nine-inning bout with the Hercules Plant office outfit for supremacy on the diamond.

Those who came with the San Francisco Office team to lend their moral support were Mrs. Rudolph Breuer, Mrs. Johnson, Miss Reidy, Miss Georgeson, and Miss Munro, and acting as chaperon was A. McQ. Williams. Nearly all of the entire plant office force turned out to root for Hercules Plant, so they are not listed.

Prominent among the spectators were Chief Clerk Willson and Fire Chief McAlevy, of the plant. Mr. Willson's pipe, however, nearly spoiled the day for Chief McAlevy. "Mac" said it smelled like a burning cotton mill, and that he didn't like to be constantly reminded of conflagrations while trying to count the errors. Mr. Willson compromised by eating an apple and nearly spoiled his own afternoon by dropping the core before all the good had been obtained therefrom.

Edgar Planz, of the Acid

Department, proved himself to be a sparkling little jewel as a coach. He coached the plant players while at bat, and not being satisfied with that, capered around first base, coaching those who were fortunate enough to reach the initial sack. Edgar coached the plant batsmen so well that he succeeded in ably assisting fully ten of his team-mates to strike out, and at first base he proved to be a great asset to the other team by helping at least nine out of twelve teammates

to get caught off the bag. If Edgar had helped coach Napoleon, Napoleon would never have had a Waterloo—he wouldn't have needed it, because he would have lost out some years before he did.

Orville Adams, of the San Francisco team, playing second base, contends that the hand is quicker than the eye. Before throwing a ball from second to first to put the runner out, Orville always takes off his glove. He does this, he says, to bewilder the runner, thus slowing the runner up so that he reaches first after the ball.

A good time was enjoyed by all. Oh yes, the score was 8 to 3, the plant winning.



THE PLANT AND OFFICE TURNOUT
(Top) Phil Powelson, Ralph Robison, Orville Adams, Bronson Tufts, and "Jimmy" Nichols. (Lower picture) A. J. Willson, Ralph Robison, and Gertrude Riepling.

HERCULES AT A "ROCK ASPHALT" QUARRY

An Interesting Commercial Product is Obtained with the Aid of Explosives. Our Company's Representative Helps an Operator to Increase His Output and Reduce Costs

J. R. LITTLE, St. Louis Sales Force

A HUNDRED and twenty-five miles west of San Antonio, Texas, in a valley formed by a shallow stream, is found a stratum of limestone, the pores of which are filled with asphalt, making it dark gray or almost black. It is known as *Uvalde rock asphalt*, and is produced commercially by a company of that name, but is spoken of locally as *black rock*.

In the bed of the stream, which is dry most of the year, this black rock is approximately sixteen feet thick and exposed for a width averaging about one hundred feet, while along the sides of the valley, it carries an overburden of a soft, porous, white limestone and soil varying from a few inches to a number of feet in thickness.

Black asphalt rock, after being drilled, blasted, and crushed, is used in the construction of hard-surfaced highways and city streets. Both the hot and cold processes are used in road making, and both result in a very good roadbed.

For a number of years this black rock has been quarried from under the low range of hills bordering the stream bed. The rock was taken out by the open-quarry method, which made necessary the complete removal of all the overburden. This was done with a large drag-line and bucket, assisted by black blasting powder.

As the quarry was opened up, the overburden increased and the asphaltic content of the black rock decreased to the point where it was not satisfactory for the cold process work.

A partial re-organization of the company brought about the determination to open up a new quarry in the bed of the stream, even though it would be



THE UVALDE "ROCK ASPHALT" QUARRY

We get a good idea from the top picture of the appearance of the quarry face, with the spacing of the holes clearly visible. The results of a shot are shown in the bottom picture. The results of our service are told in the story.

necessary to install a pump to keep the water out.

About this time the superintendent asked to have a Hercules service man study their methods of shooting to determine the best percentage and kind of dynamite for their work.

It was found that, although the rock was fairly easy to drill, it was extremely tough and hard to tear apart. Having no crusher at the quarry made it necessary to break all the rock to a *one man size* before shipment. It had already been determined that one and one-half-inch, jack-hammer holes, spaced four feet apart and from eight to sixteen feet deep gave the best breaking results. The powder formerly used was 60 per

cent. Extra L. F., $1\frac{1}{4}$ "x8". This was not entirely satisfactory, as it left a great many large blocks which had to be drilled for plug shots. This secondary blasting, or *block-holing*, was being done with 40 per cent. N. G., $1\frac{1}{4}$ "x8" in shallow, one and one-half-inch holes.

After carefully considering the matter, the service man recommended the quicker and more shattering action of 60 per cent. N. G. in the big shots and the slower action of 20 per cent. Extra L. F., $\frac{7}{8}$ "x8", loaded in one-inch holes, for the plug shooting.

The recommendations were accepted and orders placed for the new kinds of powder. These supplies reached the customer just before the service man made his second visit, when the new quarry was to be opened.

The first, or opening, shot in the new asphalt quarry consisted of twenty-five drill holes spaced four feet apart and arranged in a double row (Continued on Page 337)

PRACTICAL FIRST AID

The Third Installment of an Article Dealing With This Important Subject from the Standpoint of Our Own Plants

CLYDE T. WETMORE, M. D., Hercules Plant Physician

(Following a discussion of shock, assepsis, wounds, contusions, and hemorrhage, in the August and September numbers, the author this month takes up two more subjects.)

BURNS: We shall consider as burns all injuries caused by steam, hot liquids, hot metals, electricity and contact with the flames of chemicals, and treat them as such.

Their danger is dependent on the depth and area involved. Three types are spoken of: First degree burns, in which there is only a redness of the skin produced; second degree, in which blisters are formed; and third degree, in which a greater or less amount of tissue has been destroyed with resulting scar formation.

Fire burns: If one's clothing is on fire, needless to say, put out the fire, smother the fire by wrapping the unfortunate in a blanket or rolling him over and over on the ground. The war has included in its list of advanced methods of treatment an extremely valuable one for burns and this today has been almost universally adopted for this injury. It consists of covering the burned area with a layer of melted paraffin which is held in place by a bandage. Various preparations of paraffin have been put on the market, the one used principally in the service being called Ambrine, which contains certain medicinal and antiseptic properties. Relief experienced by the application of this material is remarkable.

On account of the lack of facilities for handling this substance except in the hospital there is provided in the first-aid kits at our plant a bottle of Carron oil, which is linseed oil mixed with lime



A PILLOW SPLINT FOR A FRACTURE OF THE LEG

The broken leg is placed on a pillow or blanket and fastened securely with pieces of board and rope to prevent bending. Care is taken not to tie over the point of the fracture.

IN CASE OF A BAD BURN

What would you do in case someone working with you received a bad burn? Ask yourself this question off hand and see if you are confident that your treatment would be correct. And do you know exactly what you would do if you had to render first aid in the case of a broken arm or leg?

If you have any doubt about your ability to do the best possible thing if it should be up to you to act first for one of your fellow-workmen, or family, be SURE to read this installment of Dr. Wetmore's article and save yourself possible regret.

The Editor.

water, equal parts, which may be used if necessary for relief before the patient comes to the hospital. In the home the same relief may be obtained by olive or cotton seed oil.

Picric acid has also been used and this is often mixed with Carron oil but the most satisfactory results and the greatest relief to the patient can

be afforded by paraffin.

Clothes should be very carefully removed if removed at all from burns of any sort, to avoid pulling off the skin, excepting acid soaked clothing which permit the chemical to continue its destructive work if allowed to remain in contact with the body; scissors or a knife used with care should not spare the clothing. Acids should be washed out with copious amounts of water and then with alkaline solutions, such as soda bicarbonate, to neutralize any acid remaining. Alkaline solutions should not be used first, for the heat generated in neutralizing strong acid would cause additional injury. Shock is a condition frequently met with in the severer forms of burns and must

be treated. So much, then, for the subject of burns.

FRACTURE: Breaks and fractures of bones are identical. Fractures are divided into three types: simple, compound, and comminuted.

A simple fracture is one in which the soft tissues surrounding the bone are not broken sufficiently to afford communication to the outside.

A compound fracture is one in which there has been an opening formed from the outside down to the bone, either by the bone protruding through the flesh and skin or by some body such as a bullet or, perhaps, the point of an implement (Continued on Page 332)



JEROME, ARIZONA

This end of the excellent panorama shows the town of Jerome in Yavapai county, Ariz., with Cleopatra Hill in the background. The reason for a town's being here, of course, was the development of the great copper mine, the surface plant of which appears on the right. This wonderful picture was lent us by the American Institute of Mining and Metallurgical Engineers.



A BRIDE-TO-BE

Miss Loretta Morris (right), of the San Francisco Office, has resigned her position to become the bride of "Jim" Tasker on Armistice Day. She is quite domestically inclined, as her flock of white leghorns attest.



THE LANDLUBBER

This is no one more or less than Walter Vannerson, of the Statistical Division.

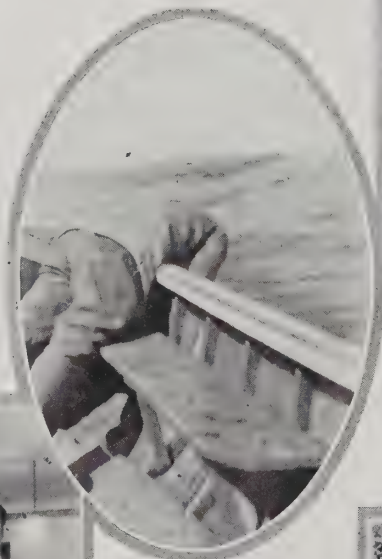
OUR SPANISH CLASS

The Kenvil force has recently been increased by a number of prospective new citizens from Spain. All of these boys have just arrived in the United States, and Kenvil offered them their first work in our country. Mr. Nester, third from the left, is teaching them English.



KENVIL'S NEW CLASS

These are the boys, who, under the direction of Mr. Nester, are being trained to qualify as stationary firemen. They are very interested in their work than these.



On the left we have a close-up of some of the Lorraine and Bernice Smith, of Hercules, on right.

A GREAT VIEW OF



GREAT MINE



COAL PASSERS

son of E. A. Baier, chief engineer, are
ineers. Some of them have already
Kenvil has never had a class more
are.



GEORGE DIXON

Here is a picture of one of
Hercules Plant's cham-
pion gardeners. How do
you like the corn he grew?

LEARNING ENGLISH

This shows Kenvil's new
members, who appear in
the group on the left of
the page, taking their
first lesson in the English
language. They are learn-
ing how to tell their
friends in Spain to ad-
dress letters to them.
Mr. Nester speaks four
different languages.



duce grown by George Dixon, Hercules Plant.
ently applied for positions as 'phone operators.



UNITED VERDE MINE

In 1918 this great mine, of which
the surface plant is strikingly
illustrated above, produced ap-
proximately seventy-seven and
a half million pounds of cop-
per ore, one-quarter million
ounces of silver, and over
twenty-nine thousand ounces
of gold. In supplying the world
with this large amount of hith-
erto untouched wealth, about
half a million pounds of Her-
cules explosives were consumed
during the year.

CARL STRUBY (LEFT)

When "Jack" Griffin, the Her-
cules Plant photographer, took
this picture of Carl he (Carl)
was arranging his scenery.
"Charlie" Lehmkuhl (on the
right) was evidently embar-
rased and modestly covered
his face with his hands.



THE HERCULES MIXER



*Published Monthly in the Interest of all Members
of the Hercules Powder Company*

HARRY ROBERTS, JR., Editor

Address all communications, whether contributions, suggestions, criticisms, or questions, direct to the Editor, in care of the Advertising Department at the Home Office. If desired these may be handed to managers or superintendents to be enclosed in the envelopes which are sent in every night.

We want everyone in the Company to help make The Mixer a success by contributing to it. The form in which contributions are submitted is not of first importance. We will dress your material up, if necessary.

OUR NATIONAL CONSTITUTION

OUR COMPANY has issued copies of the Constitution of the United States of America. Every member of our organization is entitled to one. If you did not get yours, ask for it. Read it carefully and see if you do not have a clearer idea of that for which we are struggling. It is the grandest of all constitutions, based upon the highest ideals of our unselfish, courageous, and successful forefathers. They worked out the knotty problems of their day and established honorable standards of living for all of us. Every good American will prize this little booklet, and help explain its contents in a clear way to his foreign-born brothers.

FRANKNESS

IN OUR relations with one another, frankness lies at the bottom of all just dealings. A white lie is the seed of disappointment, lost confidence, and even hatred. We may command the respect of our fellows, as well as save time, by being frank.

Frankness may temporarily wound our feelings, but all fair-minded men respect it and will give us their friendship in return. It may be slow to come, but it is more worth while when we have gained it, for it is backed by confidence.

PLANNING OUR WORK

“HE WHO thinks most, lives most” and so, we may add, “he who thinks most in planning his work, accomplishes most.” Those who use their brains to their utmost capacity progress the most, for brains have no rival. No undertaking has been nearly so successful as the one which was thoroughly planned all the way through beforehand.

Be thorough in making plans, consult others who have had experience, and don't be reluctant to listen to the advice of those who have the right to your confidence. Then draw your final plans and be sure they are executed fully.

WHAT CO-OPERATION IS

Factories and machinery are mere tools of men. Materials are inert mass. Underlying the combination must be *team work* with one another in order that we may properly apply the machinery and convert the materials into acceptable and useful products. *Co-operation* should be thought and acted, not spoken. Its beginning is in frankness with ourselves and each other. On its foundation lie our faith in our enterprise and in one another, our determination to improve upon our present work, to help those working with us, and to apply successfully and justly the best ideas expressed among us. We cannot rise alone, nor can we attain our highest ideals without helping one another as we go. This is the happiest and most efficient way to progress.

DO YOU USE OUR LIBRARY?

WITH THIS issue (page 336) we are starting to publish accessions to the Company library at the Home Office. New library lists will be a permanent feature in future numbers. If our readers will turn to this page they will note that the department is so arranged that a clipping can easily be made and filed in a notebook, in case any who do not keep their Mixers desire to retain a list of new books procured by our Company.

At the present time the library has a total of 1,270 accessions, of which 570 are bound volumes and 700 are pamphlets and government publications. About 85 current magazines of a technical nature are subscribed for, and in addition there are about 55 volumes of bound periodicals.

A copy of a recent inventory is being sent to the various plants and branch offices. Upon request any book or books not in use at the Home Office can be sent to any of the plants or branch offices for a period of four weeks.

It is probable that not everyone in our Company is aware of the existence and availability of this excellent technical library. We are calling attention to it in connection with the publication of new accessions because we believe that from time to time you will find books of interest and profit to you.

CONTRIBUTE TO THE MIXER

ALL of our plants have been requested to put up Mixer letter boxes to make it easy for members of the various plant forces to contribute to our paper. At the same time every plant and branch office is being supplied with special Mixer correspondence paper to be used for contributions, suggestions, and criticisms.

The new Mixer paper may be had from the plant or branch office correspondent and it is an easy matter to jot down something of interest and, if you work at a plant, to drop the sheet into the letter box. All of these contributions will be forwarded promptly to the editor and will receive immediate acknowledgment and attention.

HAPPENINGS AT THE HOME OFFICE

(As Related by the Office Boy)

IN THIS month's issue there is a picture of President Dunham's office, which he will have in the new Delaware Trust Building where the Home Office will move when the "structure is ready for occupancy," as the real estate men say. Well, this picture was painted by the architect and Mr. Dunham liked it fine. Just before the Home Office golf tournament, though, he thought the picture would look better if he had the silver cup he expected to win reposing artistically on his desk. So he went and had the architect paint it in on the picture of his office. The reason it ain't there now is because "Hig" won the cup, and the architect had all his trouble for nothin', cause he had to paint it out again.

Miss Margaret Reynolds, of Felton, Del., has become a member of the Disbursement Division. I saw "Ky" McCay the other day. He is back from his vacation which he spent at Asbury Park. Harry J. Kelleher has also returned from his vacation. He went to New York, and Washington. Herman Punte, disbursement division, went on a motor trip through the Shenandoah Valley. Miss Anna Hutton, also of the disbursement division, had her vacation at Atlantic City. Miss Mary McElwee visited Miss Beulah Kelly, at Felton, Del., not long ago. It was Miss McElwee's first trip to the Delaware metropolis and rumor has it that a cow stepped on her foot while she was crossing the main street. This is about all the vacation news there is for the vacation season is about over, except that Miss Kathryn Connelly spent hers "a la Harding" on the old front porch.

PORTER WHITAKER, "Bill" Staving, and John Cooper all took a try at bowling the other night. This is carefully written—it was just a try. Our expert, Mr. Good, says that they may make the 1927 squad if they keep practicing regularly. Walter Vannerson is one of the regular bowlers and was also the chief manipulator of the world's series pool. Walter was down at the alleys the same night that the rest of the Statistical Division bowled. According to his own account, he sure did show 'em up.

Miss Gunther, in Room 6009, has on hand a supply of first aid articles for the use of anybody at the Home Office who needs them. Mrs. C. F. Conroy has joined the Trade Record. Another thing that I know is that the Herculites at the Home Office contributed \$308.50 to the Community Service Campaign, who are getting money to build playgrounds.

There are some new babies this month who were just in time to get their pictures



MISS ANNA C. BONNER

The assistant chief clerk of the Cost Department has held this responsible position since the Company was organized. Rumor has it that we shall have the pleasure of publishing her picture on the June bride's page next year.

in the baby number, which will be the November issue. "Bob" Gordon, of the Engineering Department, and John Lodge, of the Credit Department, are both daddies of baby girls. John's cigars were fifteen centers. While on the same subject, although it really does not belong here, I happened to hear that T. F. Bannigan, Jr., arrived at Kenvil this month. T. F., Sr., is in the acid department.

Me and the other boys and girls are getting along fine this year at business school, which the Company helps us to attend. I thought maybe you would like to know who all of us who go are and the courses we are takin'. "Jimmy" Quinn, Hugh Brodie, Paul Richards, "Billy" Green, "Bill" Churnside, Leo Boyle, Harry Wallace, and Charles Frampton are all taking the commercial course. Maris Hainesworth, John Lyons, and "Ben" Hall are takin' up stenography. Some of the girls are takin' courses, too. They are Elizabeth Burton, Anna Horn, and Hilda Ebbeson. "Ed" Keen, who we call "Keeny," is studying drafting at the Y. M. C. A.

Some of the visitors I saw around last month were George Underwood and "Ted" Baker, of the New York Office. H. F. Cromwell ain't with the Chemical Sales any more. He has been transferred to Naval Stores and is stationed at the Gulfport Plant.

TWO OR THREE interesting things has happened in our Naval Stores business. On the first of October M. G. Milliken, who has been in charge of the construction of the Hattiesburg Plant and has been stationed at the Home Office, took active charge of that work in the field at Hattiesburg. On the same date Paul S. West became assistant superintendent of the plant. Paul will spend his time at Hattiesburg and the two Yaryan plants, familiarizing himself with the work he will undertake when we start up at Hattiesburg. Say, I forgot to mention last month that N. S. Greensfelder, from the Denver Office, is now in the Advertising Department, and is looking after mining copy. "N. S.", since he arrived at the Home Office, has discarded his broad-brimmed Stetson and "Bill" Hart shirt, and he doesn't look a bit like a cow boy enny more. "Joe" McVey is another recent addition to the Home Office force. He came from the Experimental Station to take Schubert Kloss' job in the Operating Department. You know, "Joe" had just been made The Mixer's correspondent at the Experimental Station when he got transferred, but he never even wrote a single line for me and the editor. That's some gratitude for being made correspondent, I'll say.

THE MODERN VIEWPOINT

Mrs. Kershaw: "Why don't you dress sensibly, Marion?"

Marion Kershaw: "Oh, ma, it would seem so foolish."

IN THE TREASURER'S OFFICE

C. F. Eastman: "Being married, you know what the lovelight in a woman's eyes is."

Boyd Cooling: "Yes, I was with my wife yesterday when she was looking at some fine hats in a shop window."

THE STRAIGHT DOPE

Harold Child: "Doctor, a week ago you gave me something that you said was good for my dyspepsia."

Doctor: "Yes."

H. C.: "Well, now suppose you give me something that's bad for it. I think it's been humored enough."

ONE ON THE JUDGE

Judge Graves: "Here is a charge for a call lasting half an hour on our telephone."

Mrs. Graves: "Yes, dear. That was my call. I was asking a friend of mine a question."

Graves: "And did it take half an hour to ask a question?"

Mrs. G.: "Yes, dear. You see, it was one of those hypothetical questions."

NOTES FROM THE BRANCH OFFICES

ONE MIDGET King, prize Boston terrier, is lonesome. Which leads up to the announcement that "Jack" Rice, the manager of our San Francisco Office, has departed on a trip to South America and will be gone until the first of the year—not later, we hope. Before leaving, Mr. Rice forwarded "Joe" Rice the latter's golf cup, properly inscribed to the winner. You will remember that "Jack" first thought the cup was a tribute to Midget King, and had it inscribed to his dog, greatly to "Joe's" chagrin.

"Joe," who is Arizona representative for the San Francisco Office, has added more sportsmanship laurels to his already overweighted brow. The following clipping comes from the *Bisbee Daily Review* of September 22:

JOE RICE EQUALS HOUSE RECORD FOR GOLF POOL

The house record for golf pool at the Copper Queen billiard parlor, held by George Dunn, six pockets with nine shots, was equalled yesterday by "Joe" Rice. H. Woodhouse, manager, offers a box of cigars to anyone making the six pockets in eight shots.

San Francisco regrets to announce the loss of two members from the Traffic Department:

W. N. Nelson, assistant traffic manager, has been promoted to the Home Office, where he will assist M. W. Shepard, Company Traffic Manager. His desk there will be occupied by H. K. Shaw, who has travelled from coast to coast to join our office in the city of the Golden Gate. The San Francisco force extend their heartiest wishes for good luck and success to both these gentlemen.

Miss Lorretta Morris resigned on the 15th of October to take on the name of Mrs. "Jim" Tasker on next Armistice Day. Peace and good luck as a last farewell!

The Gegan family, at Reno, Nev., has now come up to the goodly number of five, the latest addition, a boy, having just arrived. Mr. Gegan is a member of the San Francisco sales force.

Chicago, Ill.

Dear Mister Mixer Editor:

I AINT got much news this time, for nothin much seems to happen round here, but gess Id better write, anyhow. I was going to wait till I got som pictures of these girls here—you know all those California pictures has made our girls jelus and they kepe sayin there just as good lookin, but what can I do when they don't give me no pictures to send in. Perhaps next month I can send som if they dont get cold feat.

Miss Casey had a nice vacation. She went on a long trip east and went thru Wilmington on a train. I asked her



"JACK DEMPSEY" SHEA

Is the pugilistic boast of our New York Office and has a number of knockouts to his credit, as well as one or two against him. His fighting ability, be it said, is not Manager Annette's reason for employing him.

what kind of a town it was but she didnt seem to no and I said whats the use of going thru a town when you cant tell nothin about it afterward. Anyhow, I gess she didnt see nobody she new.

Miss Frank and Miss Sanborn had there vacations two, but they dont say much about them. Mr. Horty was on his vacation and we got cards from Atlantic City. Gess now everybodys had there vacations, and I dont know what Ill write about next month.

Mr. Mathews cam down this morning and he started tellin about having burglars at his howse and just when my hare was starten to stand up he spoils it by saying there wasnt no burgler after all. He said he herd a noise and he went to the windo and he yells, rele lowd, be on your way there. Well, whatever it was didnt beat it and he yeled again but they didnt go. So after standing there awhile he goes and looks and here it was nothin but a cat chewin a bone on the poarch. I started to say I bet he new it was a cat all the time and just yeled to make his wife think he was brave but I thought gee hed think Im fresh so I didnt say it.

Mr. Norman, Mr. Talley, Mr. Schlatter and Mr. Shaw all from the Home

Office was here (I no there names is speled right cause I asked) and then we had Mr. Simmons, Mr. Kline and Mr. Fenn hear two.

Mr. Magill went east and I gess he must of had a good time cause he stayed so long, but I didnt have nerve to ask him.

Well, I go to put up the maile cause I cant trust the girls with it.

Yours very truley,
James Valtman.

AN AFTERTHOUGHT.

Ella Williams (Chattanooga): "Oh, doctor, I forgot to ask about that eye medicine you gave me."

Doctor? "Well?"

Miss Williams: "Do I drop it in my eyes before or after meals?"

AIN'T IT TRUE?

James McAfee (Pittsburgh, Pa.) "Ma, I wish you wouldn't call me your lamb when folks are around."

Mrs. "Ed" McAfee: "Why not, James?"

James: "It makes me feel so sheepish."

PURELY CLASSICAL.

"Ted" Baker (New York Office): "There's a college graduate at the door. He wants a job."

Manager Annette: "What can he do?"

"Ted": "He says he's pretty good in Greek."

Anettee: "Umph! Tell him we haven't sold one dollar's worth of goods in Greece since we've been in the export business."



LOUIS BERNER

Is one of the salesmen of the St. Louis force. "Louie" knows the black powder game from charcoal to graphite, and spent a number of years in the manufacturing end before he went on the road.

THE MONTH AT THE PLANTS

THE VILLAGE of South River, which is about two miles distant from Union, recently made great preparations for an Old Home Week and the girl who collected the most financial assistance for the celebration was made queen of the Carnival. The honorable Boyd Touhey, of Union, backed a prospective queen to the limit and was very nearly elected King of the Carnival. He lost out by only \$400. This was tough luck for him and all of the plant offers heartfelt consolation, especially as, from all accounts, the queen-who-might-have-been is a peach and one of the King's jobs was to kiss her in full view of the multitudes.

Whether due to jealousy of Mayor MacSwiney or to a determination to test his endurance, Sam Hoddeson started an indefinite fast on Tuesday evening, September 21. From latest reports, Hoddeson is failing rapidly and his private physician has little hopes that he will survive longer than another year or two if he keeps on sinking the way he has during the past two weeks. Union wishes Sam luck and suggests that floral contributions will soon be in order.

Ohrum Small has gained the unchallenged title of Union's pie eater (This by way of off-setting the item above about Sam Hoddeson). Ohrum eats at least one pie every day of his life for practice. Judging from the enthusiasm and rapidity with which he disposes of pastry discs, Union is willing to bet that he can eat at least ten more pies at a sitting than any other Herculite. The odds offered are three to one on Ohrum against the field.

One evening last month Union observed a sacred plant tradition by conferring the time-honored celebration upon three new families, namely, Mr. and Mrs. J. O. Small, Mr. and Mrs. "Charlie" Moffat and Mr. and Mrs. C. B. Patterson. Over one hundred persons were present at the celebration. During the excitement "Pap" Kumler got into an argument with one of the village fences. After five or six rounds, "Pap" retired from the field of glory (?) with a near-black eye. He also lays claim to other injuries which are not so evident. To add to the enthusiasm, a thousand rounds of Hercules Sporting Powder were shot off by exuberant revolverites and the following morning it was discovered that all of the tinware had disappeared from the Technical Club, having been used the previous night to imitate tom-toms and fire alarms.

The August Safety Contest at Union resulted as follows:

Department	Average No. of Men	Total Accidents	Accidents per 100 Men	Rank
Yard.....	24	2	8.3	1
Nitro Cotton.....	48	5	10.4	2
Maintenance and Power.....	76	17	22.4	3
Pyro Solutions.....	17	4	23.5	4

George VanDerveer is extremely popular with the feminine contingent at Union, but he is just now having considerable difficulty in explaining how he acquired the very evident female teeth marks that are visible on his left arm. George said they were given him by a mosquito. Oh Boy! this sounds like a whopper.

Union has played host recently to a number of Herculites, among whom were E. D. Armstrong, superintendent of Hercules Plant, and "Bill" Hunt, G. M. Norman, C. A. Higgins, Hugo Schlatter and J. B. Wiesel, of the Home Office. During their short visit, Messrs. Armstrong and Hunt made up a team of doubles for a special match against the plant. They lost two straight sets, 6-2 and 6-1. The low characters who violated all the laws of hospitality by maltreating innocent and unsuspecting guests in such a

brutal fashion are Ralph Kumler and V. R. Pfingstag, otherwise known as the "Terrors of the Nitro Cotton Department." Future visitors to Union take due warning and avoid the treacherous attacks of these two outcasts.

HERE IS a letter from the boys of the Hercules Club at Kenvil:
Dear Mixer: We prefer the above to dear Editor and would like to know, if we must call you up to call you down? Why? Well! because. You haven't said a word about us since Adam was a little boy. Do you want news? If you do, here it is. Kenvil and the Hercules Club are back on the map after a year's rest from the "Great Strain."

With due apologies to the author:
"Backward, turn backward,
O time, in thy flight,
Make me a club-member
Just for tonight."

That's the get-together spirit which has again hit Kenvil. Practically unknown when the sun went down, the next day the whole country was asking, "Where is this Kenvil?" You may go into the four quarters of the country and get the answer from the thousands who sojourned here during three strenuous years and whose presence brought this club into being, which in turn added materially to their pleasure, comfort, health, and happiness. And you may rest assured those men have never forgotten the Hercules Club.

It is a pleasure to sit on our veranda and watch the "passing throng," pointing to and explaining about our club, which is located on the main highway leading from New York to Lake Hopatcong and Delaware Water Gap.

At night, when our weekly dances are held, the building is one beautiful, bright spot, and on Wednesday and Sunday evenings the house is filled to capacity for the moving pictures. Fraternal orders are making use of our large hall on frequent occasions and during the coming season we shall (Continued on Page 331)



MRS. ARMSTRONG ENTERTAINS
This is not a class in "How to Vote," but a delightful afternoon affair, held in September, at which the wife of Hercules Plant's superintendent was hostess. The picture was taken on the lawn of the Armstrong home in the plant village. We get a glimpse, in the circle, of one of the many attractive palms that grace the lawns of our Californian Herculites.

FOR OUR SALES FORCE

This Department is Devoted to Articles, News, and General Information of Interest to Our Branch Offices and Salesmen

THIS IS an article by one of our salesmen which tells us facts about the state of Arkansas which are new to many of us. We would like to hear from more of our sales force, giving us descriptions of the territories in which they work and how Hercules products are developing them.—The Editor.

Oft times, when I tell some of the folks from the East or from elsewhere in the United States that my work has for the most part been centered on Arkansas, they smile, evidently having in mind the book *On A Slow Train Through Arkansas*, which book I have never read, but I've surely ridden on that train. I wonder if many of us Herculites realize what there is to Arkansas as a state.

Arkansas is the only state in the Union in which diamonds are mined. The western half of the state is hilly and the apples raised in the Ozarks of Arkansas and Missouri are the finest flavored apples in the United States, with no exceptions.

The eastern half of Arkansas is for the most part delta, or low land, a good part of which was formerly covered with swamps, now raising cotton and corn. Its agricultural resources are only partially developed, but are rapidly being developed through proper drainage and good roads. Arkansas is spending more money on good roads than any other state. There are about ten million acres of wet land in the state which are rapidly being reclaimed by dynamite and dredge ditches. A year ago there was not a total of five miles of dynamited ditches in Arkansas. Today there are more than fifty miles of ditches blasted with Hercules powder, mostly within the last eight months. Mississippi County is boasted to be one of the richest and most fertile agricultural counties in the United States, and with an eight months' growing season they pretty well hold up their claim. Personally, I have seen winter wheat and corn crops both taken off the same land in one year. There are thousands of acres of land in that county which are not developed as yet, being under water or in timber. The land rents are very high, in some

instances one hundred pounds of lint cotton per acre, which may not sound high, but at sixty cents to one dollar per pound it means a good high land rent.

In Mississippi County lives a man who is rated by the U. S. Department of Agri-

8,000 acres and cultivates it, making a total of 18,000 acres in cultivation. Mind you—this is not a corporation or a concern, just one man and his work, and while it is true that many individuals own larger acreages in the United States, yet they do not cultivate them.

This man is Walter W. Driver, of Osceola, and here are a few notes about his farm: He uses 214 teams of mules, 38 planters, 4 graders, has 12 miles of good roads on his land, and operates 7 commissaries, 2 private gins, and 2 saw mills. Over 700 families live on his land. Last, but not least, he has used more than 50,000 pounds of Hercules dynamite for ditching this year.

H. W. Stoddard,
St. Louis Sales Force.

UTILIZING OUR TIME

C. C. Gerow, Sales Manager

The growth of any business depends largely on concentrated effort and the utilization of time to the best advantage. So many of us are inclined to follow the beaten path, because it is the path of least resistance, and naturally this is probably more clearly defined in the position of a salesman, because he has in his possession a block book, which is a key to the business in his territory. With a block book, is it not the inclination to visit the trade so listed and call it a day? We should utilize our spare moments to develop new business. We can and should increase our sales through the securing of new business that is the result of natural growth.

There is most always some work going on that could be better accomplished by the use of explosives, even though the idea may never have occurred to those doing it. A live salesman will find out what is happening all over his territory and will see opportunities for sales from buyers who do not even know they are in the market. Then there is the prospective user of powder who would be interested in knowing how we can best serve him. All this is not nearly so difficult as it seems. It is merely a matter of systematically thinking what you can do every minute of your time to the best advantage of our Company and the furtherance of good will towards it.

culture as being one of the largest individual farmers in the United States. He owns 11,492 acres of land, of which 10,000 acres are in cultivation. He leases

tember sales record the second best month we have had. We want to see you crowd it to third. Here's what you did last month:

Black powder, 2,832; Dynamite, 243,685; Caps, 154,075; Fuse, 805,800; E. B. Caps, 13,750.

Let the calamity howlers howl and the extremist tell you about hard times, curtailment in production, and cessation of buying. You just go ahead and hustle as you have in the past—the best evidence we have of conditions in our territory is written in your order books. No one can go behind results and you are certainly "producing" and furnishing "food for thought" when you enclose in your envelope that merry message: "Ship to —;" we never grow weary of shaking the envelopes for such missives to drop out. If you think such exercise is going to break our arm, you are mistaken—we are "hogs" for this class of



RECLAIMING GOOD LAND IN ARKANSAS

The boxes floating down the ditch (which has just been blasted) contained the dynamite that did this job. Next year cotton and corn will be growing here. Within the last eight months nearly fifty miles of ditches have been blasted in Arkansas with Hercules dynamite. Read "Stod's" story—on this page.



HERCULES BOOTH AT THE SIXTH NATIONAL EXPOSITION OF CHEMICALS

This great exposition was held at the Grand Central Palace in New York City from September 20 to 25. Thousands of interested people saw our exhibit. The picture story of the manufacture of dynamite, soluble cotton, and naval stores products attracted many visitors and received very favorable comments. Representatives of our Company from the Home Office, from the New York and Philadelphia Offices, and from Kenil and Union Plants helped by their efforts to make this exhibit a success. We have every reason to feel proud of our part in this year's big "show."

"punishment." Do your "durndest." We will cheerfully expend a few shekels for "windows" if our eyes go bad.

The only "wail" we register is our failure to meet our quota on caps and electric blasting caps. On fuse we are holding our own, but some of our men are not getting as much business in blasting supplies as they could if they gave them the attention they deserve. What would you think of a merchant who didn't try and push his entire line? There is always a beautiful chance to interest the entire trade in the sale of blasting supplies. Fifty per cent. of our fuse business is being sold by ONE man—does this set well with YOU? Another thing, this salesman hasn't the largest sales of explosives. It proves our theory: That even though you cannot get orders for powder or dynamite, there is an opportunity to secure blasting supplies business. We must do better in the sales of caps and electric blasting caps—we say "MUST" because we KNOW there is ample opportunity for you to increase YOUR sales in YOUR territory. You CAN do this—won't you please make a special effort in that direction this month?

We congratulate you on your work during the past month and are certain that the same effort and

attention on your part will keep us in "CLASS I" where we belong. You have a line of goods that cannot be excelled in any way, you have the backing of an organization with a record of brilliant

successes, our advertising is widely circulated and favorably commented on, you have the support of all our employes, and if you think of anything you need and haven't got, let us know and we will send it to you "PREPAID—P. D. Q." Wasn't it Kipling who wrote:

"It's not the individual or the Army as a whole,
But keeping everlasting at it, by every 'bloomin' soul."
or words to that effect? That's what we want—team work; you're the driver. "Step on it."

"SPIKE" WRITES AGAIN

My dear Ben:

I DIDN'T get time to write you before as I am so busy making money for the Hercules Powder Company. This business is sure my dish. I have learned more guys in this outfit how to sell things than there are fleas in San Francisco. and confidentially Ben the big guns on the top of the stack sure do appreciate a good man like me with all of my experience and knowledge of how to sell things, since as how I have had been in so many lines before I went into the dynamite and powder business. I haven't got that \$10,000 a yr. salary as yet but watch me get it next mo. Just leave it to me.



HERCULES AT WORK

Explosives are the result of chemical knowledge. The researches of many chemists have enabled us to transform the raw materials received at our plants into constructors of modern civilization



"SPIKE" VISITS JOPLIN

When he first lapped those big piles of little white things he told "Joe" Ramsay that he didn't know there was so much zinc in the world. "Joe" just laughed at him.

They sent me down to Joplin to learn how to mine lead and zinc at least that is what they told me but what they really did was to send me down to learn them guys how to do it as while I never saw zinc mined I know it cant be much different than digging ditches and sewers and hard coal and planting trees and other things so I have the dope all under my finger ends as you would say.

While I was down there I met Joe Ramsay and he was told by his boss Mr. Latimer (he is a tall skinny guy that thinks he can play golf) to show me the ropes. Joe Ramsay is a fat guy and he couldnt play golf or drive a nail but when it comes to knowing all about the Lead and Zinc district hes got Hicks almanac stricking out like O'Neill did in the last game of the Worlds serious.

How do you like the picture of me in the tin can this is how they tooke me down into the bowells of the earth as they say in the best cellars. When I first lapped those piles of little white things I told Joe Ramsay that I thought there never was so much Zinc in the world and he just laffed but I did not no what he was laffin at because they are some piles look like mountains and i didnt see nothing to laff at.

When I got down I saw a lot of guys shoveling rocks in the same kind of a tin can as the one I went down in and it reminded you a lot of men standing in the middle of Pittsburgh on a clear day. but it wasn't so bad after we got our lamps lit and went to the place where them birds was preparing some holes to shoot them. Here is where I shone. I told them miners how to load there holes and how to shoot and they looked at me and to show you how they appreciated having a guy like me around they asked Joe Ramsay where he got the smart guy and

I took this for a complement because they never get a guy as smart as I am to go down in there mines. There was also some things said by them same miners about me that I can't write but I no when Im in right so I didnt pay no attention to them.

Believe me I was glad to get out of that mine. and I got a wire from the home office telling me I should send in some repoarts guess they don't like me to hold them up for a few weeks as they want the first hand dope from an experienced guy like me, that was a good one because I thought the telegram was telling me about that raise I have been telling you about but not yet.

Love to Lucy and the Kids, Spike.

SALES DEPARTMENT JINGLES



A salesman looked into his book
And saw "Rice Powder" noted.
The meaning, though, he quite mistook,
And wrongly he promoted.

He thought the stuff was for the face
And used as calcimining.
He therefore tried a beauty place
Where maps get their refining.

P. S. The Jokes on me them piles of white things aint Zinc they are what they call tailings because they are the tail end of the zinc or the rock the zinc comes in and the part they throw away just like the skin of a banana.



The boss said that she needed some
But called it *Poudre de Riz*.
(The salesman's talk began to hum)
"Please send two kegs to me."

Soon Schaghticoke turned out the stuff,
The lady got her order,
Her language, mildly termed, was "rough"
And somewhat on the border.



BUY, SELL, OR EXCHANGE

Last month we had a number of inquiries, doubtless leading to sales, from our classified advertising. You can get results if you use this free department.

Wanted: An automobile of the enclosed type, for less than \$1,000. Do not want a Dodge. Ed. Kuhn, Hercules Plant.

For Sale: A 10-volume set of Burton's translation of the *Arabian Nights*. Address Box A-16.

Wanted: A male Airedale puppy, less than six months. Oorang strain preferred. Must be eligible for registry. Address Box A-14.

Wanted: A moderate priced, second-hand automobile. Harry Squires, Hercules Plant.

For Sale: A 12-gauge Winchester pump gun and case. The gun is equipped with a "silver pad." Ramrod included. Price \$60. Charles Lehmkuhl, Hercules Plant.

For Sale: One pair of French prism binoculars in leather case with shoulder strap. For full particulars and price address Box A-1.

For Sale: A .38 cal. Army special Colt revolver, 6" barrel. Reason for desiring to dispose of it is that I have another .38 Colt. This revolver was purchased through the Company, and I am willing to sell it for \$18. A. G. Moon, Kenvil Plant.

Wanted: Engineering handbooks by any of the following authors: Trautwine, Kent, Marx, and Kidder. State the year of the handbook or books you have. Box A-17.

THE MONTH AT THE PLANTS

(Continued from Page 327)

entertain our members with excellent, up-to-the-minute shows.

In a small community like this (only five hundred voters in the entire district) we have seven teams entered for our bowling tournament, which will be held during the fall, winter, and spring. Our basketball team are preparing for their winter work and opposing fives will meet some mighty men this season. Our pool tables are busy every night and many experts with the cue are counted among the players.

Next season (no joke—lost out this year because of dismantling) look for beautiful lawns, a baseball field, tennis courts, and a children's play ground.

Where do we get our members? Why, from Kenvil.

We're a get-to-gether community—and we know how to appreciate a good thing. So we keep a "shovin' and pushin'" it along.

Sincerely,
The Hercules Club.

MIXER readers will recall that some time ago we published a picture of a marble bust of the Honorable George Ritter, one of the San Francisco Office notables. This picture elicited an effusion in verse, entitled *Riley vs. Ritter*, which appeared in the following issue and created quite a lot of interest. In connection with the same subject we now have the following from Bronson B. Tufts,

known to all our readers as the Hercules Plant correspondent:

"Bill" Agnew, of the San Francisco Office, said that "the poetry about Ritter and Riley in the August 'Mixer' is punk." Bill said the meters are all mixed, that iambic pentameter doesn't belong with Ionic or Gothic fandangos, and the poetic license is something awful. Orville Adams and Harry Truscott, of the same office, tried to persuade "Bill" that the poetry was fine, and even George Ritter said it was the best he had read since Lord Byron died. "Bill" still remained unpersuaded and said he could write better poetry with his left hand. Harry Truscott said that if he did that, he, Harry, would pay "Bill's" poetic license for the next ensuing quarter. Bill said he would write the left-handed poetry if Harry paid for the license first, because he didn't want to be arrested for poeting without a

license. Harry complied and dug up the necessary four bits, whereupon "Bill" allowed Orville to tie his right hand behind his back, and dashed the following off with his left hand:

"Twinkle, twinkle little star,
How I wonder what you are
Up above the world so high

Like a candle in the sky."

Harry thought this was fine, but Orville said not to be a boob, because this poetry wasn't original with Bill—it was the chorus of one of the late songs, and besides there wasn't anything in it about Ritter or Riley. So Bill had to try again. This time he produced:

"Twinkle, twinkle
'Georgie' Ritter,
Twinkle just like
'Jimmy' Riley,
Twinkle like a yellow daisy,

Twinkle like a little school bell."

Harry said that this was fierce. Orville, on the other hand, thought it was quite sweet.

Harry said he'd be darned if he'd pay for a license for "Bill" to write poetry like that—there wasn't a decent rhyme in the whole thing. "Bill" replied that he didn't need a license for that—that it was free verse. Harry retorted that it oughtn't be let go round free. It looked like a scrap impending between Harry and "Bill," especially since "Bill" still had his right arm tied, when Orville came to the rescue. Orville suggested that the dispute be left to readers of *The Mixer* as to which is the better poetry, that entitled, *Ritter vs.*

Riley, in the August number, or the above blank verse written by "Bill" Agnew. So we have decided to submit this matter to our readers. All replies should be forwarded to Orville Adams, care of the San Francisco Office, not later than November 20 of this year. A committee has been appointed to count the opinions received, pro and con. This committee consisting of A. F. Ambrose, of the San Francisco Purchasing Department, "Tim" Cornish, of the Traffic Department, and Henry Schuler, of the Accounting Department. "Bill" Agnew has said that the writer of the best letter, stating why his verse is best, will be given, by Bill, an autographed collection of his earlier poems.

Orville Adams states that however the contest comes out, he intends setting "Bill's" little poetic gem to music—suitable for the saxophone, horn, piano, or drums. (Continued on Page 336)



ONE OF KENVIL'S BOASTS

Is the plant locomotive which, during the railroad strike in the spring, pulled a shipment of acid over the tracks of several different railroads from Kenvil to a customer's factory.



FROM THE WILD AND WOOLLY WEST

Come two pictures this month, one of Miss Elizabeth Rabbitt (left), a stenographer of the Pittsburgh, Kans., office, and the other of Leo, Jr., (above), the pride and joy of Mr. and Mrs. F. L. Costello, "Sonny Leo's" daddy is one of "Charlie" Spicer's Pittsburg salesmen.

PRACTICAL FIRST AID

(Continued from Page 321)

penetrating the body from the outside.

A comminuted fracture is one in which the bone has been shattered or broken in several pieces.

A combination of a compound and a comminuted fracture is not infrequent, especially in bullet wounds.

Of the three types the compound is the most serious on account of a path of entry being established for germs from the outside, which thrive well on injured tissue.

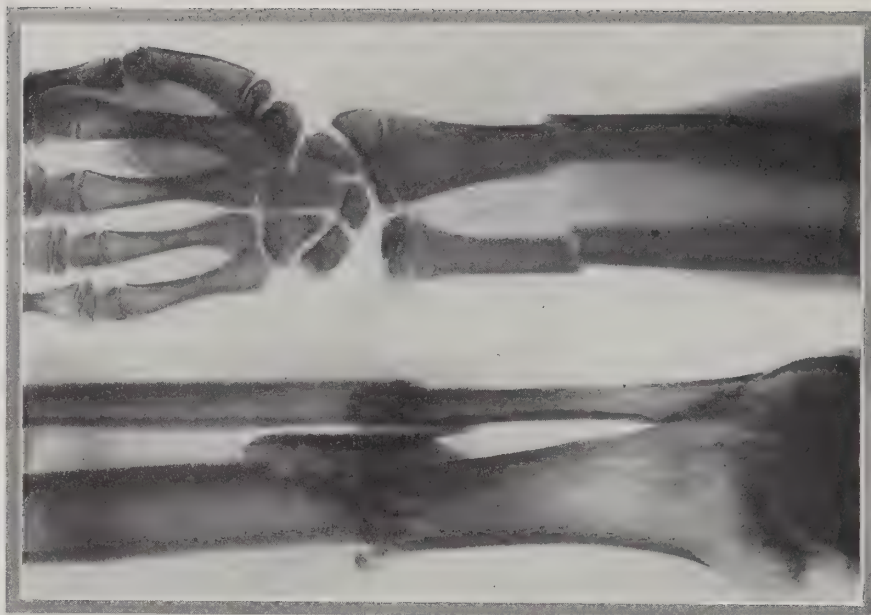
Simple fractures may be easily converted into compound fractures if diligent care in handling the patient is not exercised.

The doctor recognizes a fracture without the aid of the X-ray by:

1. Deformity; the limb assumes an unnatural position, is bent or shortened, and some inequality may often be felt in running the fingers along the edge of the bone.
2. Abnormal mobility; there is an unusual degree of motion at the seat of fracture.
3. Loss of function; the patient is unable to use the part.
4. Localized pain; there is pain at the affected point and much tenderness on pressure.
5. Crepitus; a grating feeling when the two ends of the bone are caused to rub together, an operation which should never be practiced except when necessary to aid in determining the presence of a fracture, for it is possible for a blood vessel to become pinched between the fragments of bone and torn, producing a hemorrhage.

A fracture heals most satisfactorily when kept at perfect rest. When left in this condition a substance is thrown out around the point of fracture called *callus*, which becomes more dense and hard from day to day. In time the repair has become as firm as normal bone and is often more difficultly broken than previous to the injury. To facilitate this kind of repair, methods are used to keep the bone quiet. The plaster of paris dressing or cast, commonly called, is the most satisfactory. Splints made from metal or wood are usually more accessible in first aid work; a piece of barrel-stave, a board from a box, a piece of piping, an umbrella, or a cane, if well padded, can all be utilized in emergency to prevent the broken leg or arm from bending.

Treatment: An erroneous idea is possessed by most persons that something must be done immediately. There is no hurry about setting any fracture, and it is far more advisable to delay setting a fracture until a doctor can handle the case and obtain X-ray pictures than to take any chances on what appears a very simple case. The patient should be made as comfortable as possible, being either placed on a stretcher for conveyance to



X-RAY PICTURES OF FRACTURES (TAKEN AT THE HERCULES PLANT HOSPITAL)

A simple fracture of both bones of the forearm is shown in the top picture. Below it is a comminuted fracture of both bones of the leg. An X-ray picture is of great assistance to a physician in setting a fracture.

the hospital or left quiet to await the arrival of the doctor, and the broken bone immobilized as completely as possible, with the precaution of preventing a simple fracture from becoming a compound fracture or preventing infected material from contaminating an already compounded one.

Fracture of a limb: Place the fractured limb on a pillow or blanket, avoiding any unnecessary moving or handling and fasten securely with pieces of board and rope to prevent bending of the limb. Do not tie over the site of the fracture. The splints should be well padded and should extend above and below the nearest joints to prevent movements at these places. In moving the patient from the floor on to a stretcher or from the stretcher to a table as short a distance as possible should be provided and sufficient assistance obtained to handle the patient with ease, slowly, and without obliging him to bend his body.

Fracture of jaw: A bandage is passed under the jaw and brought up over the head where it is tied firmly to hold the lower jaw shut tightly against the upper, which acts as a splint.

Fracture of skull: This is sometimes difficult to determine; however, bleeding from the ears or nose or both, with inflamed whites of the eyes and probably partial or complete unconsciousness from concussion and compression of the brain had better be considered fracture of the skull. Lay the patient in a quiet place with head slightly elevated and a cold compress applied to the head. Notify a doctor and do not give stimulants.

Fracture of forearm: There is a common fracture of the forearm called Colle's fracture, in which the radius bone is fractured within the lowest inch near the wrist. The characteristic deformity

caused by this fracture has given it the name of "silver fork," the deformity resembling the shape of a silver fork. Satisfactory reduction through definite manipulation can generally be obtained and good results after immobilization in a cast. The Chauffeur's fracture comes under this heading, and is caused by the thumb being jammed in a "kick back" or by the handle flying back, striking the back of the wrist.

Fracture of the collar-bone: Lay the injured on his back on the floor with a blanket under him and await the doctor; this position allows the shoulders to be thrown back and prevents the ends of the bone from rubbing together with the possible danger of puncturing the large vessels running behind this bone. If it is necessary to move the patient, strap the upper arm of the side affected to the side and the forearm and hand upward over the chest.

Fracture of ribs: This ordinarily causes sharp pain over the point of fracture on deep breathing and on certain movements of the body. Spitting of blood is sometimes experienced, due to the ends of the bone piercing the lung tissue and rupturing some of the vessels. Strap the chest of the injured firmly with a bandage roll or preferably with adhesive strips, extending the strips about 3 inches beyond the mid-line on to the well side, back and front.

Fracture of Pelvis: The bones of the pelvis are rarely fractured except by extreme forms of violence, like high falls, runovers, and crushing accidents, and frequently the associated internal injury results in fatality. Disability is generally instant from pain, deformity, and shock. The seriousness of internal injuries warrants the greatest possible care in handling these patients, (Continued on Page 337)

HERCULES ATHLETICS

A Department Devoted to the Latest Sports Activities of the Plants, Branch Offices, and Home Office: Bowling, Baseball, Tennis, and Golf

C. A. HIGGINS, Golf Editor

"JIMMIE" HARKINS, Tennis and Bowling Editor

DURING September the Hercules Union Club started a bowling tournament with about forty entries. Desirable prizes will be offered for the best scores. Another winter event for the club will be the handicap pool tournament, which has just gotten under way.

There were so many postponements in the latter part of Union's baseball season that the game was finally abandoned. However, a series is now on between teams of married men and bachelors. The first game resulted in an overwhelming victory for the benedicts, by a score of 11 to 2. After the game, accusations were made by several of the single men that certain players on the bachelor's team were so nearly married that their allegiance to their own team was weakened by this fact. With the latter excluded from the team, the celibates are confident that in the remaining games the forces of matrimony will be annihilated.

Basketball practice will start soon and in spite of the fact that Union has no regular court, it is hoped that the plant will be represented by a good team.

"SLATS" LATIMER, Joplin sales manager, was with us at the Home Office last month. Of course, it was inevitable that the golfing feud between him and LaBeaume should flame out again. And so our two warriors started out, armed to the teeth with

mashie and brassie and putter and niblick and other golfing weapons, and also a full suit of golfing armor and round shot in the shape of balls.

For eighteen holes, a distance of three or four weary miles, they hacked and hewed and sliced and pulled and as the fiery red sun dipped behind the western hills and the insistent cricket and whip-poorwill commenc-

ed their nightly chant, our one and only Irving LaBeaume trudged up to the club house with the scalp of "Slats" dangling



PARTICIPANTS IN THE RECENT COMPANY GOLF TOURNAMENT

(Standing) R. H. Dunham (second from the left), R. B. McKinney, M. W. Latimer, J. T. Skelly, C. C. Gerow, A. P. Van Gelder, G. H. Markell, H. Talley, and F. D. Thatcher. (Seated) C. A. Higgins, H. H. Eastman, J. A. Graves, F. W. Stark, G. W. Banks, and E. I. LaBeaume.

THE CONCENTRATOR.

We are sure that all of our readers will want to frame our feature on page 334, entitled How Not to Play Golf. The suggestion will doubtless be made that it would be in order to hang ye editor with the pictures in question. In justification of the pictures we would quote "Bobby" Burns:

"Oh, wad some power the giftie gie us

Tae see ourselves as ithers see us

It would frae mony an error free us."

Union has started its annual bowling season with forty entries. The married men's baseball team, at the same plant, defeats the bachelors, 11 to 2. Basketball practice has started at Union with plenty of first-class material.

Harry Vardon and Ted Ray come to Wilmington to study the style of the Home Office golfers. "Herb" Talley now wears golfing togs to the office.

Bowling team captains have been elected at the Home Office and a schedule of 75 games arranged. The season has already started.

from his belt. After the usual restoratives had been applied, LaBeaume received the congratulations of his friends.

Things ain't what they was, and in fact never will be, we guess, so far as the nineteenth hole is concerned. Time was when the veriest beginner could approach the "19th hole" with a bright eye and a confident bearing, feeling that here, at least, he could compete with the solons. More record scores, more miraculous shots, and, we'll venture to say, more games have been played over the nineteenth hole than any other.

The nineteenth hole was the shrine of golf and the mecca of all good golfers. It is now only a hallowed memory, haunted occasionally by the spirits of the past.

THE DINNER that followed our last Home Office tournament was a memorable occasion.

The golf match had proved quite a strain on the nerves of some of our members, owing to certain handicaps, mental rather than physical, which developed during the game, because of the rather peculiar grouping of the players. To illustrate: A good conversationalist may be a charming addition to a drawing room, but he's a pest in a golf match. Similarly the "shimmy" may go great in burlesque, but it grates when your opponent or partner executes it in thrilling fashion in addressing the ball for each shot. Fellow Herculites, ye golfing editor could regale your ears most heartily with the full details of this match, but the big boss editor won't stand for trifling. But it's almost worth a special trip to the Home Office to get it verbally.

However, when the tired and spiritually frayed friends assembled for dinner they were cheered by the sight of some spiritual (we almost said spirituous) refreshment, provided in lavish fashion by our real good friend, F.W. Stark. In the golden glow of its mellowing influence, troubles were forgotten and the winner of the tournament acclaimed in hearty manner.

J. T. Skelly presented the trophies, and believe us he's some presenter. Mr. Skelly's personality seems to flourish and expand upon occasions like these,

when he's seen at his very best. A prince of good fellows, his geniality and tact make him very popular, and he knows, too, how to order a dinner.

C. A. Higgins and C. C. Gerow received their blushing honors with becoming modesty, Champion Higgins' kind and encouraging words to the younger golfers being most timely.



"HIG"

Winner of the recent Home Office golf tournament.



"THATCH"

Was master of ceremonies at the tournament.

HOW NOT TO PLAY GOLF

As Exemplified by the Company's Leading Exponents of the Royal Scotch Game at the Last Home Office Tournament



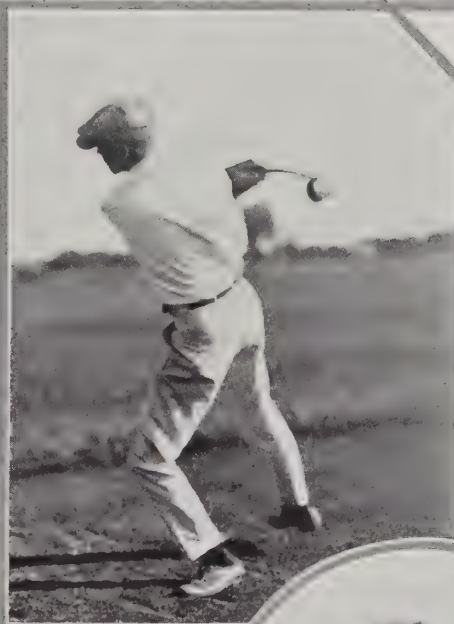
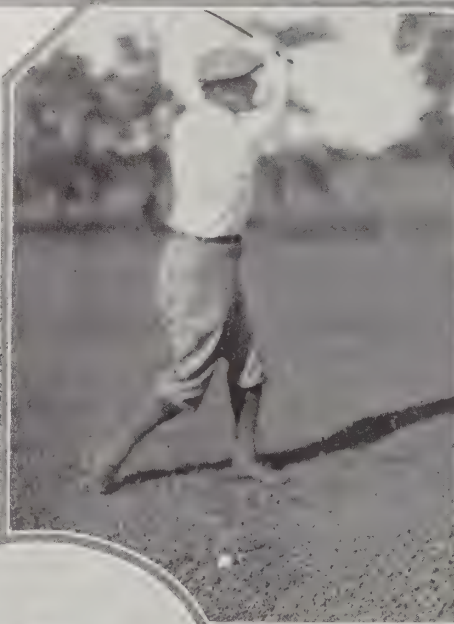
OUR G. M.'S SHOES

May be the ambition of many another man in the Company, but candidates for his trousers are not so numerous.



A SALES APPROACH

As a golfer, "J. T." (Mr. Skelly) is the very best dynamite salesman we know—and is willing to admit it.



THE JOPLIN SWING

"Slats" Latimer (left) looks like he is throwing the hammer or getting ready to kill a snake. Something's going to happen.

• THE CHIEF

Object in golf is to hit the ball—President Dunham (right) here illustrates, negatively, this important point of the game.



FRED STARK (TOP CENTER) RECOVERING

From a hazard on the first. His stance, however, violates the well-known copyright of the Colossus of Rhodes (See history).

IT IS ALL RIGHT TO BLOW

About your game, occasionally, but for the information of "Jerry" Gerow (left), it is unnecessary to blow on your golf ball.

CAUGHT IN THE ACT

The camera never lies, even about your golf game. In this case, however, the gracefully suspended towel may have caused "N. P." (Rood), on the right, to lose his balance.





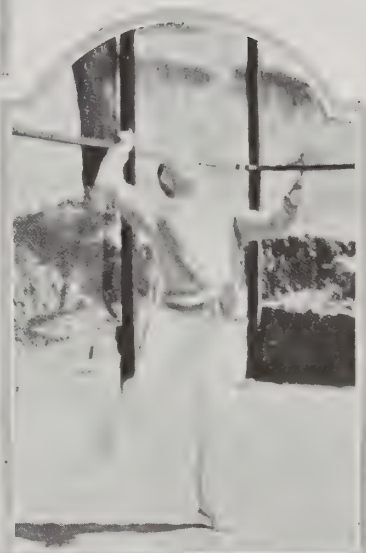
OUR WEST COAST TENNIS STARS

Mrs. George W. Duncan, Mrs. I. C. Brown, Mrs. E. D. Armstrong, and Mrs. E. W. Sill are all well-known and expert wielders of the racket at Hercules Plant. Our Californian Herculettes indulge in tennis liberally, and are noted for the strong games that they play.



PHIL POWELSON

Hercules Plant's engineer is also a tennis enthusiast and hopes some day to meet the Home Office cracks on the courts. Phil's just a wee bit over the line, you will notice.



A SUNKIST QUARTET

In the center we have another attractive pose of Hercules' lady champions. (Left to right) Mrs. E. D. Armstrong, Mrs. E. W. Sill, Mrs. George Duncan, and Mrs. I. C. Brown.

BETWEEN SETS (RIGHT)

Our Hercules photographer managed to catch this group of plant tennis celebrities. (Left to right) Ray Major, I. C. Brown, Luke Sperry, George Duncan, Dr. Wetmore, and Phil Powelson.



"DOC" WETMORE

Besides spending his time writing first aid articles for The Mixer, "Doc" occasionally takes a little exercise on the courts and claims to have a faster serve than anyone at the plant. It is too fast for the camera, anyway.

WITH AN organization headed by R. N. McAdams, president, and "Mike" Walsh, secretary and treasurer, the bowling season of the Hercules Club started on Wednesday, September 29. The team captains selected are as follows: Infalible, L. E. Good; Sharpshooter, J. B. Flanagan; Red H, S. P. Toadvine; Bullseye, J. E. Stein; Hi Vel, C. E. McKay, and Herculoid, J. F. Harkins.

The schedule will include seventy-five games and from present indications it is difficult to forecast the winner in the league. The athletic committee are very well pleased with the large number of men who have gone in for bowling this winter.

From the material on hand it will not be difficult to pick a team to match against the plant bowling organizations, and this year the Home Office has given due notice that it is out for revenge, and expects to clean up all opponents.

Even for those who do not bowl it would be worth while to make a trip to Grady's alleys on Wednesday evenings, for there is always plenty of entertainment and the acrobatic stunts that are performed by those who are just taking up the game are well worth the price of admission to the main tent of a circus.

Various insinuations have been made and our rotund friend, Frank Massey, has put up a side bet with President McAdams that he (Frank) will have a higher average at the end of the season. If Frank were as good a bowler as he is proficient at the game of rum, he would not have any trouble collecting his bet now, but, sad to relate, it looks like "R. N." will trim him.

THE TENNIS season at the Home Office is fast drawing to a close, and the athletic committee are taking steps to insure the use of the same courts next

year. The number of men who participated in the game this year exceeded by far the estimate of the committee, and indications point to an even larger number next season. The Home Office has again been challenged by Kenvil, but due to the lateness of the season and inability to get sufficient preliminary practice, the tournament has had to be called off.

Arrangements for the pool and billiard tournament will not be made until the new athletic committee has been named at the next monthly meeting of the club, but all those who intend taking part are advised to get their hand in with a little advance practice. It is probable that the tournament will start December 1.

It has been suggested that a girls' bowling team be organized. If any of the girl members of the Home Office desire to participate in this sport, they are requested to consult L. E. Good.

NEW LIBRARY BOOKS

(Available at the Home Office)

AMERICAN MINING CONGRESS: Report of the Proceedings of the 22nd Annual Convention held in St. Louis, Mo., Nov. 17-21, 1919. Including also proceedings of National Industrial Conference, National Gold Conference, National Oil Shale Conference, and National Conference of Schools of Mines and Metallurgy.

ATLAS: Geographical Manual and new Atlas, C. O. S. Mawson, Doubleday Page & Company. Principal auto routes given on all state maps of United States.

BOOK INDEX: Cumulative Book Index, Emma S. Teich (comp). H. W. Wilson Company. An author, title and subject catalog in one alphabet of books published June, 1919, to June, 1920. Supplement to U. S. Catalog.

CHEMISTRY: COLLOID: First Annual Report on Colloid Chemistry, British Assoc. for the Advancement of Science, 1917.

CHEMISTRY: INDUSTRIAL: Manual of Industrial Chemistry; Allen Rogers (editor) 3rd ed. 1920, D. Van Nostrand Co. A manual for the student and manufacturer. The cumulated experience of many experts in American industrial chemistry, covering most modern developments in various industries.

CHEMISTRY: Romance of Modern Chemistry, J. C. Philip, M. A., D. S. C., Ph. D., Seeley, Service & Co. A description in non-technical language of the diverse and wonderful ways in which chemical forces are at work, and of their manifold application in modern life.

CRESOL SOLUTIONS: Saponified Cresol Solutions, Jacob M. Schaffer, U. S. Dept. of Agri.—Bulletin No. 855. This paper describes a series of experiments undertaken with the object of preparing a saponified cresol solution, which would be cheaper and at the same time no less effective as a disinfectant, than those at present in use.

DAILY TRADE SERVICE: Standard Daily Trade Service, Vol. 12, Apr. June, 1920, Standards Statistics Co. A digest of available basic information in newspapers, trade papers, Government and other publications, showing source of information for purposes of reference and credibility.

ENZYMES: Biochemical Catalysts in Life and Industry, Jean Effront, translated by Samuel C. Prescott, Wiley & Sons. Containing data on all the proteolytic enzymes. The action of rennet on milk, of pepsin and the various trypsin, erepsins and amidas of vegetable or animal origin on albuminoid matter, etc.

EXPLOSIVES: Liquid Air Explosives, L. P. Typewritten translation from Revue de Chimie Industrielle v. 28 p. 498-10. Giving composition, temperature of explosion, etc.

GOVERNMENT PUBLICATIONS: Guide to U. S. Government Publications, U. S. Bureau of Education—Bulletin No. 2. Containing information regarding the organization and functions of the various governmental departments and bureaus.

INDUSTRIAL FELLOWSHIP: Seventh Annual Report on Industrial Fellowships, 1920, Mellon Institute of Industrial Research.

INTERNAL AFFAIRS: Annual Report of Federal Trade Commission for 1919.

IRON - OXIDE AND IRON - HYDROXIDE PAINTS: Recommended Specification for Iron-oxide and Iron-hydroxide Paints. Bureau of Standards Circular No. 93. Outlines general specifications for the pigment, liquid, semipaste, and ready-mixed paint, methods of sampling and analysis and describes reagents to be used in examining these products.

PAINT ANALYSIS: Analysis of Paint Vehicles, Japans and Varnishes, Clifford D. Holley, Wiley & Sons. Written primarily for paint and varnish manufacturers and their chemists. Useful reference book for commercial and other chemists who may be called upon to inspect or analyze paints, driers or varnishes.

PAINTS: Recommended Specifications for Black Paint, Semipaste, and Ready Mixed. U. S. Bureau of Standards Circular No. 94. Outlines general specifications for the pigment, liquid, semi-paste and ready mixed paint, methods of sampling and analyses and describes the reagents to be used in examining these products.

RESEARCH LABORATORIES: Research Laboratories in Industrial Establishments of the United States of America.—Bulletin of the National Research Council Vol. I, pt. II.—No. II. A classified list, giving some information about staff, work and equipment.

SAFETY ENGINEERING: Treatise of Safety Engineering as applied to Scaffolds, Traveler's Insurance Co. Treating briefly of scaffolds in general and scaffold hazards—with more detail in safety features, specific types, construction and operation.

SYNTHESIS OF AMMONIA: Advantages of High Pressure in Synthesis of Ammonia, Georges Claude. Typewritten translation from Comptes Rendus v. 170—p. 174.

TURPENTINE ANALYSIS: Analyses of Turpentine by Fractional Distillation with Steam, by Wm. C. Geer, U. S. Forest Service, Circular No. 152.

WEIGHTS AND MEASURES: Weights and Measures. U. S. Bureau of Standards, Miscellaneous Publication No. 41. Twelfth annual conference of representative from various states held at the Bur. of Standards, Wash., D. C., May, 1919.



IT DID HAPPEN AT KENVIL

An overgrown boy of fifteen advanced his age to eighteen and was employed. "Andy" Streich found him loafing on the job and gave him a "red ticket." The result was prompt and astonishing, and Cooper, entirely innocent, bore the brunt of it, as you see from "Buck's" sketch.

THE MONTH AT THE PLANTS

(Continued from Page 331)

Harry Truscott has tried to pour cold water on the whole proceedings by saying that any verse with as many twinkles in it as "Bill's" has is bum—too many twinkles will spoil anything.

The entire affair has created considerable excitement in the San Francisco Office, and the replies from Mixer readers are eagerly being awaited in Orville's office. So don't delay—sit down and write your opinion fully as to whether the poetry in the August "Mixer" or "Bill's," quoted above, is best—or if both examples are punk—and why.

Announcement is made of the marriage of Miss Margaret A. Campfield, daughter of Mr. and Mrs. J. L. Campfield, of Rockaway, to Richard J. Bonno, at the home of the bride's parents, East Main Street, early in September. Only the immediate families of the bride and groom were present at the ceremony. After the wedding supper Mr. and Mrs. Bonno started on a trip to Buffalo and Montreal. Mrs. Bonno, before her marriage, was one of Kenvil's stenographic force. Her picture appears on this page.

HERE IS something from a San Francisco newspaper, contributed by our Hercules Plant correspondent, which will interest our Missouri friends:

THE CALL'S ROVING CORRESPONDENT FINDS WEATHER SO HOT IN JOPLIN THE RABBIT'S SIT UNDER LOCOMOTIVES TO COOL OFF.

We stopped at Joplin, Mo., for a little gas and got a lot of it. Asked a native if we could get 4 per cent. He says, "Yes, they'll give you 4 per cent. at the savings bank." We smothered him with corncocks.

Quite a few of the neighbors kept going by, and thinking that Uncle Tom's Cabin might be giving a show, or something, I asked the housekeeper why everybody was going to Joplin.

"Oh," she says, "we've just reached our quota in the Third Liberty Loan and there's going to be a band concert in front of the postoffice."

Being afraid of cyclones, I suggested that I'd sleep in the cellar, but my motion was voted down, 3 to 1.

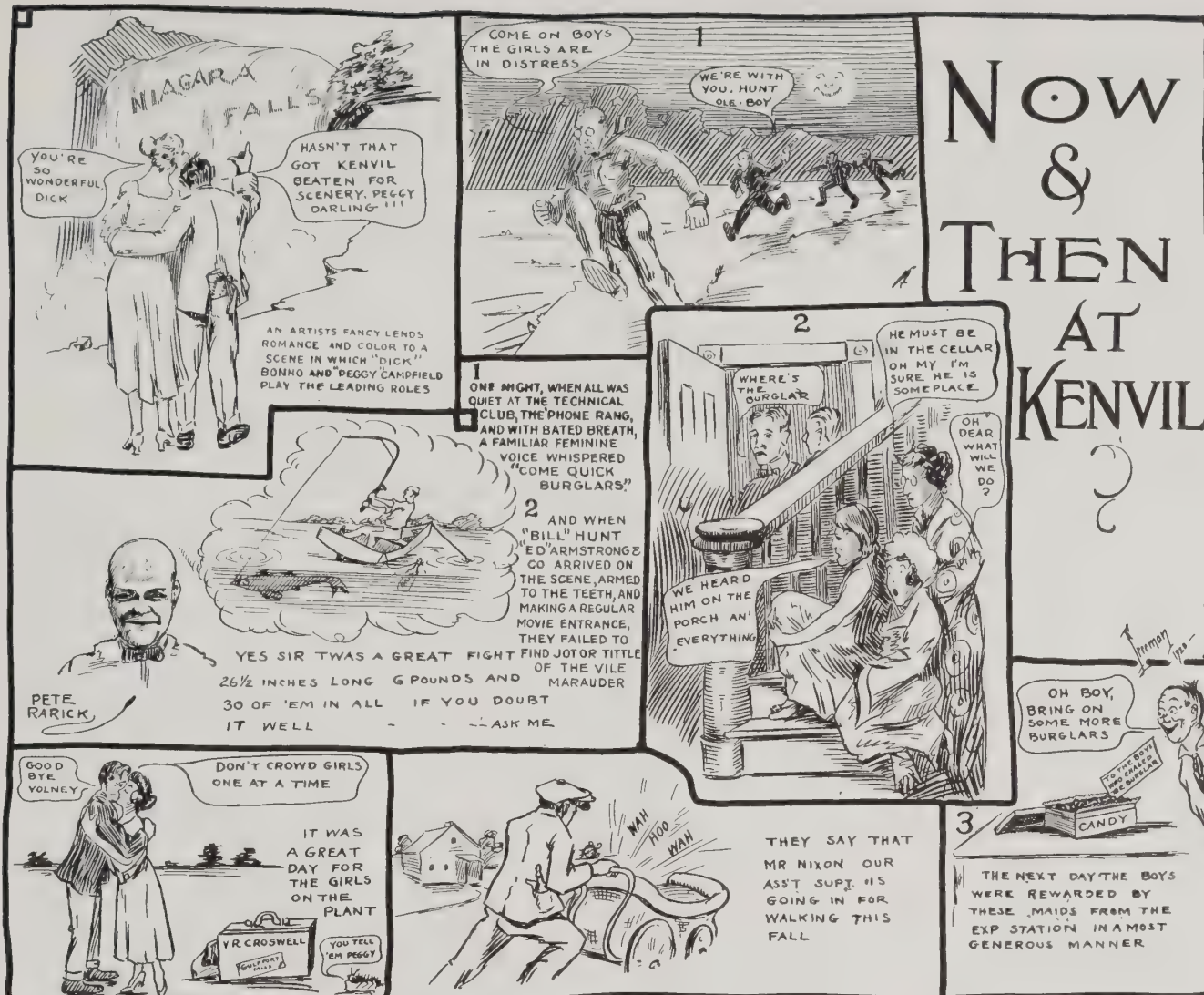
The "Joplin Lightning" they hand out to you makes you think you've been struck by lightning.

Iodine is used as a beverage here, and as a chaser for "Joplin Lightning."



PEGGY CAMPFIELD

Has become the bride of Richard J. Bonno. "Peggy" is well-known as one of the Kenvil plant stenographic force. See the plant news on this page.



BLASTING ROCK ASPHALT

(Continued from Page 320)

part way across the stream bed. These holes were six feet deep and slanted in towards the center line between the two rows. A total of sixty-three pounds of 60 per cent. N. G. was loaded into these twenty-five holes and fired with a battery. The result of this shot was very satisfactory, although a number of large blocks were thrown out, due to one row being loaded more lightly than the other.

The second shot, however, was the real demonstration. It consisted of three rows of holes, spaced four feet each way, rows staggered, and all holes five feet deep and slanting a little towards the first shot.

A total of one hundred and five pounds was loaded into these thirty-seven holes, although one end was loaded with 60 per cent. N. G. and the other end with 60 per cent. Extra L. F. The same number of cartridges of each powder were used in corresponding rows and holes.

Following the blast, it could easily be seen that the end loaded with the 60 per cent. N. G. was shattered and contained the smallest number of boulders requiring block-holing.

For the necessary block-hole shots 20 per cent. Extra L. F. $\frac{7}{8}$ "x8" was used and gave better results than the 40 per cent. N. G. formerly used, because it broke the rock sufficiently and did not shatter it so much or throw it all over the quarry.

The recommendations and the demonstration by our service man were evidently appreciated by the customer, for a good-sized order for explosives and supplies was the direct result.

PRACTICAL FIRST AID

(Continued from Page 332)

for a slight movement of the fractured end of one of the pelvic bones may rupture one of the large blood vessels, or puncture some portion of the urinary tract.

Treatment: First aid work in treatment of this condition consists in giving the usual attention to shock and extreme precautions in moving the injured to avoid any damage internally.

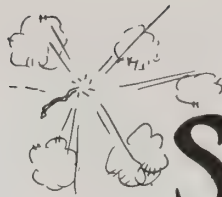
Compound fractures: As described earlier, these are fractures in which communication has been produced from the outside through the soft tissues to the bone either by an external object entering from the outside or by a protrusion of the

fractured bone through the skin. The important treatment in this type of fracture is to avoid, as far as possible, any germs from contaminating the wound. If the fractured end of the bone protrudes from the surface, it is best not to try and replace it if medical attention can be procured within an hour or so. After laying the patient in a comfortable position, simply cover the wound with a thick compress of some antiseptic solution, such as a $\frac{1}{2}$ per cent. carbolic acid solution or ordinary boric solution if the others are not available. Avoid unnecessary handling and keep the patient quiet. Hemorrhage of course must be taken care of.

(To Be Continued in November.)

One of the chemical journals, in a review of the recent Chemical Show, published the following, which, we strongly suspect, had reference to us:

Woe to the exhibitor who brought a bottle of butyric acid to the Exposition—not only brought it, but opened it! The never-to-be-forgotten odor clung to the show with the bulldog tenacity known only to butyric acid and its brother in crime, valeric acid.



SQUIBS

vkn

NECESSARY TO MEMBERSHIP.

"Bill" Lyon: "Your club is very exclusive?"

Duffy: "Yep."

"Bill": "Won't take in any new members?"

Duffy: "Not unless they got their own liquor."

The fever of rifle shooting has so penetrated the Chemical Department that Miss Kathryn E. Conner has recently been practicing on her ranch at West Chester, Pa. Unfortunately, the back of the range consisted of a field, and when papa went to harvest his crop of pumpkins he found all of them perforated with bullet holes. It is not reported what action he took, but Miss Conner was absent from work the next day.

THE LAND OF THE NATIVE SONS

(Continued from Page 318)

a Maine man as its Superintendent.

We spent one day in the San Francisco office and met all the boys there. Right here I want to warn you to keep away from there while Geo. Ritter is around as he has blood in his eye, looking for the bird that has been publishing all that stuff about him and James W. Riley, in the Mixer. The S. F. correspondent's name is McKandlitch, but don't try to pronounce it as I did and shook out a few fillings from my teeth in the attempt.

One day we went out to the Cliff house and took a swim in Sutro Baths, not because we cared about it but because it was Saturday. That night Harry Kolb

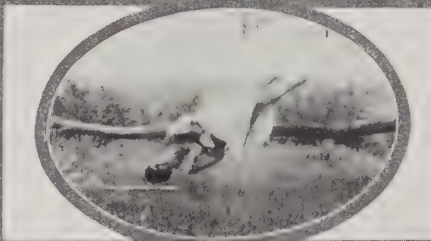
of the S. F. Office took us to Tait's Cafe where we watched the California Janes smoking Mecca cigarets with Philip Morris expreshuns on their faces.

Well, Ed, they is only one other thing I can mention and that is when I was on the way back I met a man in one of the Santa Fe stations who said he was going to California. When I asked his name he said he was a Irishman and his name was Abraham Shertoff. I throwed up my hands and said "Lissen to me, Abraham, auld boy, you don't stand no show in Sunny California with a name like that. Get it changed from "Shert-off" to "Overcoatonn," or the Ancient Order of Hibernians will have one congealed member with his hands folded and a lily on his chest."



A SOUTHERN EXPOSURE

Four Kenvilettes took a swim one day
And they went in the water looking this way,
But they all turned their faces straight to the wall
And to tell you the truth, we don't know them at all.



CLAMS AND GIRLS

Some of the Home Office Herculettes enjoyed at least one clambake before the bathing season ended, at the Old Grey Mare, a cottage on the Delaware. The top and bottom center pictures show the girls enjoying life to the utmost. In the upper picture Miss Catherine Hasson is on the right, and in the lower one Miss Marion Kershaw is on the left and Miss Hasson on the right



SEPTEMBER MORNINGS

The four Kenvilettes then turned themselves around
And to tell who they are, we thought we were bound,
But when they reversed, they took down their hair—
You must agree with us all that this wasn't fair.

OVER THE BARS

Miss Grace Sweeney, of the Experimental Station's stenographic force (oval in center) demonstrates the most up-to-date method of hurdling fence rails. The question which presents itself is, do the Herculettes at Kenvil wear hosettes? We have strong suspicions that Miss Sweeney will make an excellent candidate for next year's White Sox team. However, we leave this to your discernment.

ABOUT HERCULIGHTS



GEORGE M. Norman, chief chemist of our Company, came into the world at Wallingford, Pa., in 1877, though just what month and day of that year is a profound secret. His early schooling was all had at Bloomsburg, in the state of his birth, where he was graduated from the normal school of that city. The following fall he entered Penn State College and received his diploma in 1899, having taken the course in chemistry.

His first position was with the Illinois Steel Co., at South Chicago. Six months later he went with the Tennessee Coal & Iron Co., at

Birmingham, Ala., where he worked for another half year. He was engaged in chemical enterprises for both of the above-mentioned companies. When Mr. Norman left the Tennessee Coal and Iron Co. he did so to accept a position with the General Chemical Co., being first located at the Camden laboratory and later at the company's plant in the same city. He worked three years for General Chemical, leaving to spend two years at the University of Wisconsin, where he took work in mechanical, electrical, and electro-chemical subjects, at the same time teaching.

In 1905 the powder business claimed him permanently for its own, and he joined the duPont Co. as a chemist in the acid department at the Repauno Plant, Gibbstown, N. J. From that time Mr. Norman made rapid progress in his chosen profession, and when, with the organization of the Hercules Company, he came with us he had been in charge of all the acid manufacture and other operations in the safety area at Repauno. He joined our Company in April,

1913, as chief chemist, the position which he holds today, although for a short time he was our entire Chemical Department.

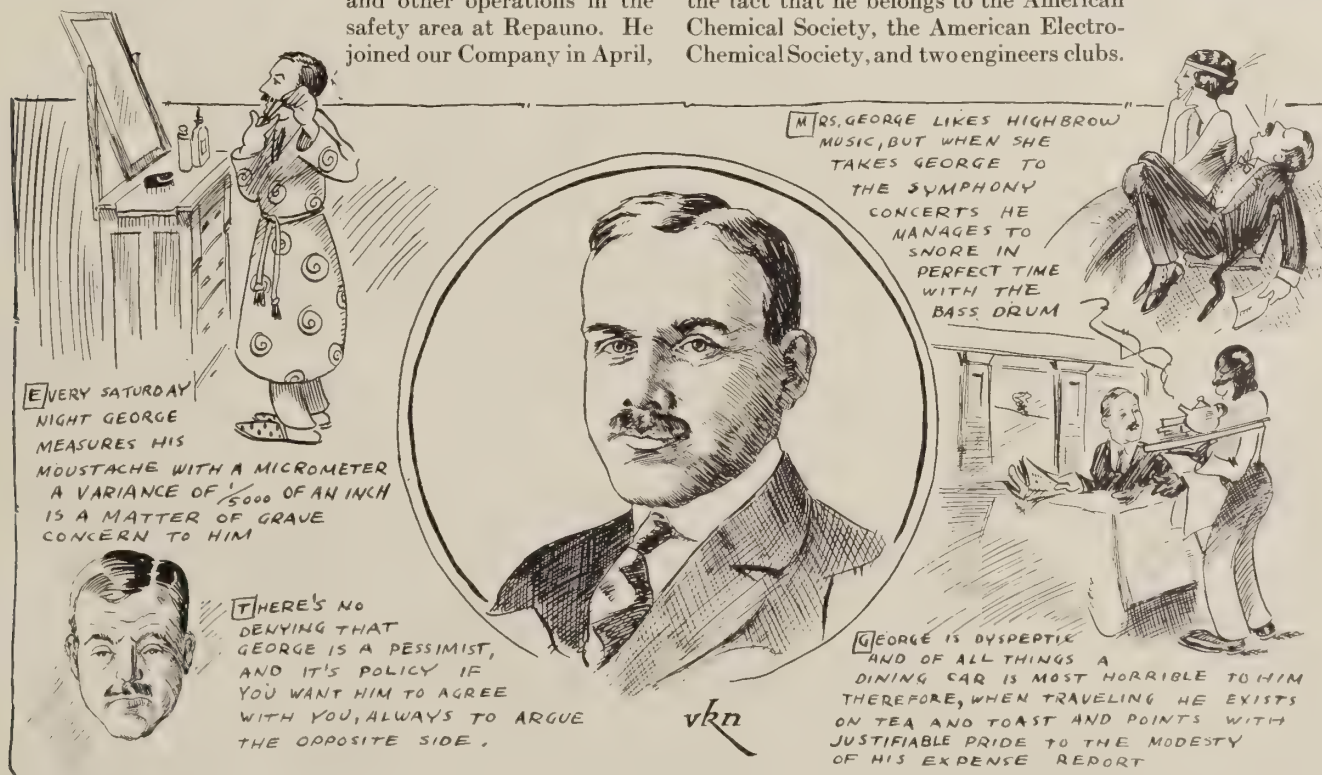
Mr. Norman is deserving of particular credit for the organization of our Kenvil police force during the war. Another big work that he did was to select hundreds of the foremen, chemists, and technical men who were sent to Kenvil and Hercules in those strenuous days. But it was in connection with our large cordite contracts that Mr. Norman achieved his greatest distinction. Readers of The Mixer will recall that under our Chemical Department's supervision the Curtis Bay acetone plant produced as high as one and a quarter million

pounds of this ingredient, essential to cordite, in a single month. Furthermore, the acetone was produced by a hitherto unused method. The output of the Curtis Bay Plant made possible the procuring and

completion of important contracts for us. Mr. Norman's share in all this work was a large one and for it he deserves a big measure of credit.

Our subject drives a Franklin car and swears by it—he does swear occasionally, you know. He counts

among his virtues that he does not drink—now, that he is not a golfer, and that he spends his vacations taking care of his children so that Mrs. Norman can have a rest. One thing that he goes in for—when he has to—is opera, and under conjugal constraint he occasionally attends a symphony concert. Otherwise he is known as a moral and upright man and takes pride in the fact that he belongs to the American Chemical Society, the American Electro-Chemical Society, and two engineers clubs.





It's the Man That Counts

The human element probably plays a more important part in the making of explosives than in any other manufacturing process conducted on a large scale. There are no machines in the twelve great Hercules plants that need only to be started at the beginning of a day, stopped at the end, and which in the meantime carry out their tasks without attention.

Every machine used in the making of Hercules Explosives has a man for its master. Every motion it makes is watched. The results of its work are carefully checked. Nothing is ever taken for granted. No machine is looked upon as infallible.

In the gelatin packing house, for example, is a large machine which fills paper cartridges with *Hercules Gelatin Dynamite. Although this machine works with almost positive precision and accuracy, every cartridge which comes from it is inspected *twice* to make certain that it is properly packed. One inspection takes place immediately after the cartridge leaves the machine. Another before it is finally boxed for shipment.

The men who use Hercules Explosives know how dependable are the men who *make* Hercules Explosives. The Explosives themselves tell the story. Their power never fails those who seek its aid. In metal mine and stone quarry, at the bottoms of deep rivers and in the hearts of great mountains, where the engineer builds a city skyscraper and where the farmer blasts a ditch, Hercules Explosives live up to the name they bear.



HERCULES POWDER CO.

Chicago
Pittsburg, Kan.
San Francisco
Chattanooga

St. Louis
Denver
Salt Lake City
Pittsburgh, Pa.

New York
Hazleton, Pa.
Joplin
Wilmington, Del.



* As its name suggests, Gelatin Dynamite is plastic. It is made by dissolving gun cotton in nitroglycerin and combining with certain other materials called "dopes." It is used principally for shooting in hard rock.

This advertisement appeared or will appear in the following publications: Scientific American, September 4; American Magazine, Popular Mechanics, and Sunset, October; The Alumni Magazines Associated, Everybody's Magazine, Metropolitan Magazine, Red Book, Atlantic Monthly, Harper's Magazine, Review of Reviews, Scribner's Magazine, and World's Work, November.

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